

# MODEL AIRPLANE NEWS

JANUARY 1946 • 20 CENTS

*An AIR AGE Publication*



# New!



**MODEL AIRPLANE**

## **DOPE KIT**

Now . . . for the first time . . . a handy, compact kit of 9 popular colors and thinner! You will find it a welcome addition to your regular stock of Testor's dope . . . an all-in-

one package for touch-up work, special trim, and complete finishing jobs on your solid, scale, and flying model planes. Available now at your favorite hobbycraft dealer . . .



**TESTOR CHEMICAL COMPANY, ROCKFORD, ILLINOIS, U. S. A.**





200 FIFTH AVENUE, NEW YORK CITY • MERCHANDISE MART, CHICAGO, ILLINOIS

# MODEL AIRPLANE NEWS

GEORGE C. JOHNSON  
Publisher

JAY P. CLEVELAND  
General Manager

JANUARY, 1946

Vol. XXXIV No. 1

## CONTENTS

Cover Design by Jo Kotula

<b>CONTROL LINE GAS (Feature)</b>	
'Seabee'.....	14
<b>FLYING SCALE RUBBER</b>	
Sopwith Camel.....	18
<b>FREE FLIGHT GAS</b>	
The Kid.....	25
<b>SIMPLIFIED RUBBER</b>	
Wisp.....	32
<b>WYLAN MASTERPLAN</b>	
DeHavilland 4 Biplane (Part 1).....	30
<b>PLANE ON THE COVER</b>	
Republic Seabee.....	22
<b>SCIENCE</b>	
Design Forum.....	17
Plane Drafting.....	36
A Gas Motor without "Electricity".....	38
Power Dive Preventer.....	42
Control Surface Hinges.....	44
Adjustment Retainer for Atom Carburetor.....	44
Reconditioning Ignition Points.....	46
Gas Lines.....	49
Booster Plug Connections.....	50
<b>WORLD WAR I</b>	
DeHavilland Story.....	34
<b>THREE VIEWS</b>	
Republic Seabee.....	23
<b>NEWS</b>	
Flash.....	2
Newsletter.....	8
Airways.....	28
Club News.....	70
S. O. S. to the Model Manufacturer.....	92



AN AIR AGE PUBLICATION

HOWARD G. McENTEE..... Editor  
JOSEPH M. MANN..... Managing Editor  
WILLIAM A. WYLAN..... Associate Editor  
TOM QUINN..... Art Director  
JAY P. CLEVELAND..... Advertising Manager  
A. M. HOFFMAN..... Asst. Advertising Manager

Published monthly by Air Age, Inc., Mount Morris, Illinois. Editorial and Advertising offices: 551 Fifth Ave., New York 17, N.Y. George C. Johnson, President; Jay P. Cleveland, Treas.; A. M. Hoffman, Sec'y. Entered as second class matter Dec. 6, 1934 at the post office at Mount Morris, Ill., under the act of March 3, 1879. Additional entry at New York, N.Y. Price 20c per copy. Subscriptions: \$2 per year in the United States and possessions; also Canada, Cuba, Mexico, Panama and South America. All other countries \$2.50.

Copyright 1945 by Air Age, Inc.



**AVIATION'S PLACE** in the future is being determined in these critical weeks with the most momentous decisions ever facing our lawmakers. The Senate has created the 11-man Atomic Energy Committee to determine a policy for production, use and control of this 20th century miracle. As a bomb it is but another weapon for the bomber to carry, and it would be a tragic mistake to destroy our magnificent air power in the false belief that it is outmoded. The atomic bomb must not alter our strategic air power concepts for we will need bombers to carry it, fighters to protect the bombers (and to destroy enemy bombers), a Navy to take the strategic bases, and an Army to hold these outposts. The debate over the proposed Army and Navy merger is tossing air power about like a toy. Army's Marshall and Arnold want unification, Navy's Forrestal and King are opposed. To give our bombers their own command is a logical move. But to ensnarl our carrier fighters and long range fighter-bombers in a mesh of divergent interests might well create more divergent command than ever before.

**POSTWAR PROCUREMENT** of new aircraft, now undergoing debate, can easily make or break the aircraft indus-

try. If current production is infinitesimal it can only result in key personnel being forced into other fields and future expansion of production impaired. Should the latter happen, much of our technological gains of the war—which is represented as much by our trained engineering staffs as by our latest model airplanes—will be dissipated. The present Navy program calls for production of 60 jet fighters, 25 dive bombers, 27 patrol bombers and 86 utility planes during 1946—a total of 198 airplanes! The present AAF program calls for production of 60 Very Heavy bombers, 991 fighters, 2 transports, 146 liaison and 39 rotary wing types—a total of 1238 airplanes! Combined, the Army and Navy will purchase only 1436 during the Fiscal Year 1946! And this after the devastatingly convincing job Air Power did during World War II! Certainly Billy Mitchell is smiling at the American people!

**AMERICAN AIRLINES SYSTEM** (new name) completed the first postwar trans-Atlantic flight on October 25 flying 15 passengers from New York to London, inaugurating a thrice-weekly service. The one way fare is \$572 plus tax, and the round trip \$1029.60.

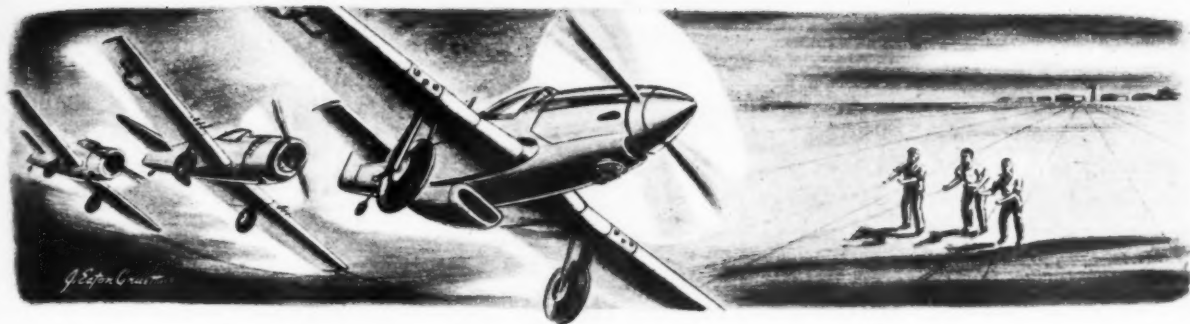
**GENERAL ELECTRIC** announced the

(Turn to page 86)



(Above) Bell XP-83 twin jet fighter has two jet units similar to those in the P-80. (Below) Grumman F8F Bearcat fighter combines light weight and moderate size with top performance





### 3 New Flight-Controller\* Fighters

Again Eagle is first. Recognizing the tremendous trend of controlled flying toward scale, stunt and aerobatic models, three top-notch design experts have developed for Eagle's Engineering Department, the best Flight-Controller\* models of the hottest fighters of the entire war. The Republic P-47N, the Grumman Hellcat F-6F-4, and the No. American Mustang P-51H. Each is authentically scaled ( $\frac{3}{8}$ "-1" and 1"-1") and is paramount in exciting real flight characteristics. The amazing new Flight-Controller system permits full flight

maneuvers. Combat flying is easy and enables you to outmaneuver an opponent. Every kit contains the finest selected Balsa and Hardwoods, printed wood sheets, Stream-lite wheels, prefabricated canopies where needed, heat treated tungsten steel landing gear materials, liquids, and many extras. Eagle's finest detailed plans are engineered to save building time and assures all model builders of reproducing these top-notch design tested Flight-Controller models. Each kit, less motor . . . . . \$4.95

pat. pending

## EAGLE leads all fields



The Dreamer with the Flight-Controller\*, was developed for speed, sport and precision flying powered with any "A", "B", or "C" class motor. To date the Dreamer has substantiated reports of speeds up to and including 112 mph and has won five contests in a row with speeds ranging from 87 to 96 mph according to official records. The wing span is 19 inches. Full construction details for the Flight-Controller system plus parts assembly assure accuracy and save building time. All parts are printed on clear Balsa \* Cut-to-size rudders and stabilizer \* TURNED and SANDED nacell and booms \* formed landing gear \* Stream-lite wheels \* a flying handbook. COMPLETE KIT, less motor. . . . . \$7.50



The Vagabond continues Eagle's policy of offering the newest, most advanced, and best models obtainable. This realistic cabin type endurance model opens all fields of model flying in its class. Designed and engineered by William Winter, editor of Air Trails Pictorial, the Vagabond combines every essential for successful gas model flying. The complete kit has all parts printed on Balsa \* Dia-cut plywood firewall \* Formed landing gear \* Stream-lite wheels \* Eagle's new style, clear, crisp, engineered plans \* liquids \* a special handbook on flying your model written by the designer. With 74" span the Vagabond is designed for "C" class motors. COMPLETE KIT, less motor. . . . . \$5.50



### 4-Way Flight Series

These are the first and only dual-type 4 WAY flying kits ever offered. Own any one kit and you have both a gas and rubber job—easily convertible. from one to the other and back again. Kits are complete and generously filled with material and illustrated plans for all types of models. Add a few accessories and you're ready for gas thrills including Tether and Control-line flying. These kits are a revelation for design-idea and for flight performance with realism that is thrilling to see. Each \$1.00.

A—ERCOUPE C—PIPER CUB COUPE  
B—MONOCOQUE D—SKYFARER



### Fighters..Endurance..Private Planes

New models . . . new construction . . . new post-war planes with heretofore unrevealed details. These are Eagle's new exciting rubber models featuring Redi-form\* construction which cuts down tedious building time by 65%. Endurance models designed to fly as sport and contest models, featuring retractable landing gears and easy conversion to towline flying. Also the wars best fighters and two new light planes. Kits contain printed Balsa \* Tissue \* Cement \* Wire \* Wheels \* Plans. EACH KIT. . . . . \$ .50

A—ROCKET C—THUNDERBOLT E—HELICAT  
B—SKY KING D—TAYLORCRAFT F—STINSON

Free



As a special service feature Eagle offers a handbook free to all model builders. This handbook will explode the many myths regarding the inversion of your model gasoline

engines. Read how they can be made to last longer. Complete data is given on inverting all popular motors made. Read how many new design features are made practical by using

your motor in the inverted position. This handbook foreshadows many new developments now on the boards of the Engineering Department. Send for your FREE handbook immediately.

BY MAIL  
EAGLE (H&F) kits are leaders at all dealers. If none near you order direct, including 20¢ per kit for packing and postage

**Eagle MODEL AIRCRAFT CO.**  
(2001) 257 WATER ST., BROOKLYN 1, N. Y.

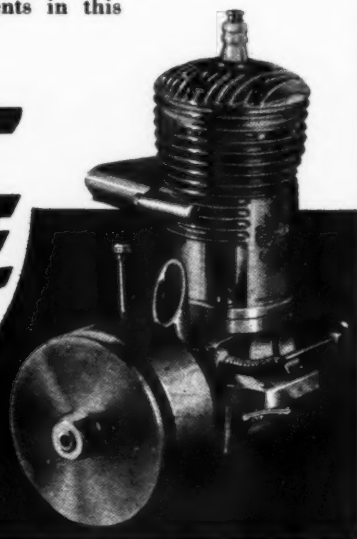
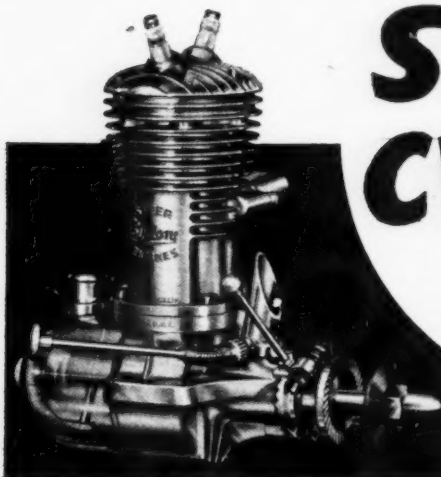
*Read the*  
**CAL-AERO  
TECH ad**  
*carefully*

**CLIP THE COUPON  
MAIL IT TODAY**

Today—the makers of Super-Cyclone engines are heavily engaged in war production... (Aircraft and engine repairs, Airline reconversion, maintenance and overhaul)... requiring superior craftsmanship and precision. However, when the war is won, these same high quality and improved engines will again be available. We have no engines for sale now. Watch for future announcements in this advertisement.

**SUPER-  
CYCLONE**

MANUFACTURED BY  
**GRAND CENTRAL AIRPORT CO.**  
SPECIAL DEVICES MFG. DIVISION  
GRAND CENTRAL AIR TERMINAL  
GLENDALE 1, CALIF.





# ... YOUR FUTURE EARNINGS IN AVIATION DEPEND ON YOUR TECHNICAL TRAINING .....

## WHAT "CAL-AERO TECH" training will do for YOU



### TRAIN IN SUNNY SOUTHERN CALIFORNIA

This all-year and world-famous recreation center is located in the heart of Southern California's giant aircraft industry. It is only an hour from its towering mountains to the blue Pacific. Here you can find rest, relaxation as well as invigorating outdoor opportunities for recreation in addition to appreciably lowered living costs.



THIS TOWER OVERLOOKS AVIATION'S MOST DISTINGUISHED SCHOOL OF AERONAUTICS

## CAL-AERO TECHNICAL INSTITUTE

FORMERLY CURTISS-WRIGHT TECHNICAL INSTITUTE

GRAND CENTRAL AIR TERMINAL  
1229 AIRWAY, GLENDALE 1, CALIFORNIA  
(LOS ANGELES COUNTY)

UNDER PERSONAL SUPERVISION OF MAJOR C. C. MOSELEY, PRESIDENT AND FOUNDER, SINCE 1929  
ON OUR OWN AIRPORT - IN THE HEART OF THE AIRCRAFT INDUSTRY

A wise investor always determines in advance what the return on his investment will be before he puts cash "on the line." You, who plan to invest in a course of training for a future career, must do the same. It is even more important to you, since your choice of training will determine HOW MUCH MONEY YOU WILL MAKE ALL THE REST OF YOUR LIFE.

Cal-Aero Technical Institute career training is carefully designed to do just ONE THING—MAKE MORE MONEY FOR YOU. Over 6000 successful graduates prove that Cal-Aero Tech. training can get results for you and increase your pay check. Cal-Aero has provided its graduates with a profitable occupation and secure future since it trained them in advance for the highest position they could ever expect to occupy. IT CAN DO THE SAME FOR YOU.

Specializing in AERONAUTICAL ENGINEERING AND MASTER AVIATION MACHANIC leadership training since 1929, CAL-AERO TECHNICAL INSTITUTE courses are C. A. A. approved and have all non-essentials eliminated to train you in the shortest period of time for the best paying positions possible. The subjects you study are the very things you do on the job. They are approved by the Aviation Industry, the very men who will employ you and know the exact kind of training you must have.

**Remember This...MAXIMUM TRAINING IN MINIMUM TIME**  
We invite your consideration, investigation and comparison — the handy coupon will bring you full details — send it TODAY.

## VETERANS . . .

Cal-Aero Technical Institute is on the list of approved schools on file with the Veterans' administration, making discharged service men attending Cal-Aero eligible for the educational benefits, as provided under the "G. I. Bill of Rights." Write us—we will be happy to help you with your future plans. Many ex-servicemen are now enrolling and taking advantage of these benefits here at Cal-Aero.

### BE WISE—PROTECT YOUR FUTURE

MAIL TODAY • DON'T DELAY

WITHOUT COST BY MAILING THIS COUPON WE WILL FURNISH YOU THE CATALOGUE ON THE COURSE CHECKED BELOW

- ☐ AERONAUTICAL ENGINEERING COURSE
- ☐ MASTER AVIATION MECHANIC COURSE
- ☐ SPECIALIZED ENGINE COURSE
- ☐ SPECIALIZED AIRPLANE COURSE
- ☐ POST GRADUATE AERONAUTICAL ENGINEERING COURSE
- ☐ SPECIALIZED AIRCRAFT SHEET METAL COURSE
- ☐ AERONAUTICAL DRAFTING COURSE, HOME STUDY
- ☐ AIRCRAFT BLUE PRINT READING COURSE, HOME STUDY

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

DATE OF BIRTH \_\_\_\_\_

N-1

MODEL MAKERS INSIST UPON

# Efficient OPERATION

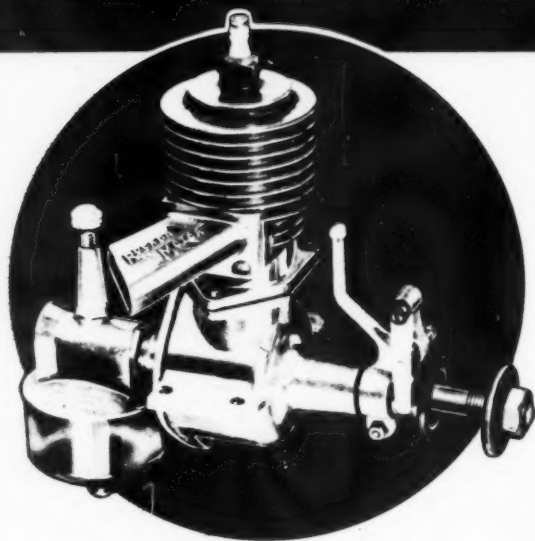
**Rocket**  
ENGINES

CLASS  
C

**Attention**

MODEL  
MAKERS

New owners appreciate the  
EFFICIENT OPERATION, sim-  
plicity of design, complete  
dependability, and long  
life built into every *Rocket*  
Engine.



## HOW TO GET YOUR *Rocket* ENGINE

See your local dealer today. If he can't supply  
you, ask him to order a *Rocket Engine*  
for you from Van De Pitte Distributing Co.

**Rocket**  
ENGINES

PRODUCT OF

**Corporate Products Inc.**  
DETROIT 26, MICHIGAN

**VAN DE PITTE**  
Distributing Co.  
Formerly Airco Model Supply  
EXCLUSIVE DISTRIBUTOR  
1474 GRATIOT AVENUE  
DEPT. R  
DETROIT 7, MICHIGAN

# MODELLERS Mail your Xmas "WANT LIST" NOW!

**PLAN** now for a busy and exciting Holiday season! Select the Kits you want to build and order right away! Winter's the time to put-on-together. Then you'll be ready for summer flying. You can order not only the items shown here, but practically any model merchandise advertised in this magazine from the World's Largest Hobby House—POLK'S.

And here's wishing you a Merry Christmas and Happy New Year



## M-4 TANK

GENERAL SHERMAN

A new precision kit (exclusive with Polk's) is the super-detailed model of the Army's death-dealing M-4 medium tank. Measuring about 10 inches long, you'll get a thrill building it! Parts are pre-fabricated wood and sturdy plywood. Movable treads and turrets. Large-size plans show step-by-step assembly procedure. Scaled 1/2" to the foot. Complete Kit \$2.00 (pp \$2.25)



## AMPHIBIAN JEEP

Most spectacular military vehicle of the War. Super Kit, scaled 1" to 1" with molded treaded wheels, pre-fabricated wood and die-cut plywood, \$2.50 (pp \$2.75) Perfectly detailed Kit, scale 1/2" to 1" \$1.00 (pp \$1.10) (Kit, scaled 1" to 2" \$0.60 (pp \$0.64))



## 40 MM ANTI-AIRCRAFT GUN

You can make an amazingly accurate model of this famous gun without any previous modelling experience. Gun elevates, swivels, wheels move. Kit \$2.95 (pp \$3.20)

## HALFTRACK (U.S.)



This Army personnel carrier belongs in any military vehicle collection. Complete Kit builds an accurate, detailed model in 1/2" to 1" scale. \$1.50 (pp \$1.60)

## U.S. ARMY JEEPS



SUPER-DETAILED

Deluxe Kit—all wood construction—1" scale \$2.50 (pp \$2.75)  
Die-cut wood and board Kit—1" scale—12" long \$1.00 (pp \$1.10)  
Wood and board constr. Kit—1/2" scale—7 1/2" long 75¢ (pp .96)



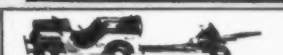
## ARMY 6-TON SCOUT CAR

This all-wood Kit of the Army's famous Scout Car is easy to build. An authentic model, scaled 1/2" to 1", includes parts for .50mm machine gun. \$1.50 (pp \$1.65)



## WEASEL 3 1/4" SCALE

The famous land-water craft that spear-headed invasions. Machined parts, 100 molded track shoes, plastic wheels, die-cut floorboard parts. Kit \$2.95 (pp \$3.20)



## COMBINATION GUN & JEEP

1/2" scale, complete Kit 79¢ (pp 90¢) 37mm Gun 40¢ (pp 50¢)

# Record Smashing CONTROL LINERS



## STRATO-CAT

All-balza model for beginner or expert. Wing span 36". Uses any Class engine. Ready-cut ribs and pre-fabricated parts. Building-flying explained. Kit \$5.95 (pp \$6.20)



## MISS BEHAVE

Built to "behave" for control-line flying. Takes Class "B" or "C" or large "A" engine. Span 22". Has 4 blade prop. Kit \$3.95 (pp \$4.20) BABY MISS-BEHAVE—Class "A" or small "B" Span 24" Kit \$2.65 (pp \$2.90)



## BUZZ

A long, sleek, slender control liner for Class "B" or "C" engine, that rewards speed craftsmanship in building by flying faster! Both wing span and length measure 30". An all-balza job. Complete Kit \$8.95 (pp \$9.20)



## TARPON

Credited with an unofficial speed record of 120 miles an hour, the Tarpon's entry in the control-line field has created a sensation! Wing span 28 1/2". Feature is the "Redi-Followed" fuselage. Kit \$19.75



## DURA-PLANE

Postwar sensation! Completely fabricated plastic Beryl! Assembled in 15 minutes. Takes "B" or "C" engine. Wing span 26", length 20". Complete landing gear and wheels. Complete Kit \$19.50

# the Finest in GAS MODEL FLYERS



## STRATOSTREAK

An all-balza poly-hedral wing design of 40" span, length 27". Sleek, slim, easy to build! Combines exceptional balance and stability. Includes Goren's unique removable mount. Kit \$2.50 (pp \$2.75)



## MERCURY

Weighing only 2 1/2 pounds, ready to fly, this Class "C" cabin job measures 52" in length. Has 6 ft. wingspan. Kit includes 3 1/2" streamline wheels, finished propeller. Complete \$5.50 (pp \$5.75). With pneumatic wheels \$6.95 (pp \$7.20)



## PACER C

Known as the National Gas Champion, this model has 60" span, is 45" long. Makes consistent 3 minute flights on 7 second motor run. Built to take hard usage. Complete Kit \$4.95 (pp \$5.20)



## VAGABOND

A 74 inch wing span, Class C cabin type endurance model designed by Bill Winter. Forward landing wheels, 3 1/2" streamlined wheels, easily underspread plans. All parts needed. Kit \$5.50 (pp \$5.75)



## ENSIGN

An all-weather streamlined Class "B" flyer. Wingspan 30", length 24 1/2". Features movable motor mount for weight and balance adjustment, finished landing gear & clamp. Kit \$3.50 (pp \$3.75)

# MODEL GAS ENGINES Now Available!



## ROCKET CLASS C

\$22.50

COMPLETE WITH COIL & CONDENSER

Displacement .460 cu. in. Weight 8 oz. Has patented Rotary Intake valve. Uses Champion V2 prop. Prompt shipment from stock.



## HURRICANE CLASS B

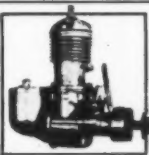
\$24.95

WITH NEW SUPER-MINI CYLINDER COMPLETE WITH COIL & CONDENSER

Displacement .24 cu. in. 8pm. 9000 with 11" prop. Horsepower 1/5. Weight 5 1/2 oz. Unconditionally guaranteed! Immediate delivery. Order yours now!

## VIVELL '35' CLASS C

\$18.00



Displacement .35 cu. in. 8pm. 7500-8000 with 11" prop. Horsepower 1/5. Weight 7 1/2 oz. Ideal for U-Control, Class C or large Class B planes.

## OK SUPER 60 CLASS C

\$24.00



COMPLETE WITH COIL & CONDENSER

Displacement .604 cu. in. Weight 12 oz. One of the easiest starting model gas engines ever designed. Has proved dependability.

Include .25¢ for package-postage



60 Page Illustrated SOLID CATALOG Shows all kits from all sources. Building tips and methods included. Send 13¢ coin or stamps for your copy.

# POLK'S MODEL CRAFT HOBBIES

World's Leading Hobby House

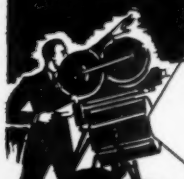
DEPT. MA-81, 314 FIFTH AVE., NEW YORK CITY (1)

DEALERS: Representing over 250 suppliers, Polk's offer economies of bulk shipping, billing, checking, at top discounts and speedy delivery! Write or wire our DEALER SERVICE BUREAU.





# Good News from National "CONTROL LINE" HEADQUARTERS



WE DO NOT  
SELL AT RETAIL

Modellers,  
Please go to Your  
NATIONAL  
DEALER

## THE SPOTLIGHT IS ON NATIONAL DEALERS

Hobbycraft Dealers who . . . **DEPEND ON NATIONAL . . .** **FIRST** are in the spotlight because they are usually . . . **WITH THE LATEST. NATIONAL SERVICE** keeps them informed . . . keeps them supplied . . . with the current best-sellers, their customers want! Here is a selection of new items that can be turned into a merchandise scoop. Order from NATIONAL.



### ADJUSTA HANDLE KIT

New control handle lengthens cables up to 20 feet in 5 seconds. Fly on 50 or 70 feet with same set of cables. All parts redi-cut. Easy to assemble. Kit \$1.00.

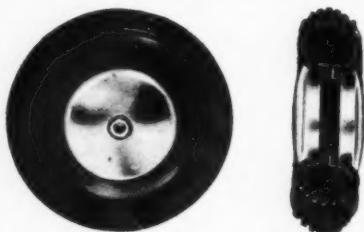


### REEL-RITE KIT

A must for safe and convenient storage of flying wires. Redi-cut parts. Easy to assemble. Kit 75c.

## PERMANENT PNEUMATIC AIR WHEELS

Won't Peel—Can't Come Off!



The only true scale wheel especially designed for U-Control flying. Rugged, yet extremely light weight. Size  $\frac{3}{4}$  x  $2\frac{1}{2}$  inches. Aluminum Wheels—black, live rubber tires. Note clincher construction in cut-away illustration. For  $\frac{1}{4}$ " axle— $\frac{3}{32}$ " bushing with each wheel. Pair, \$1.00.



Bill  
Warner's

## STRATO-CAT

Control Line Champion

All Balsa

Winner of 19  
Trophies. 64  
Loops in One  
Flight. Flows at  
96 Miles per  
Hour!

Winner of Air Trails Trophy (Stunt),  
Philadelphia, October, 1945

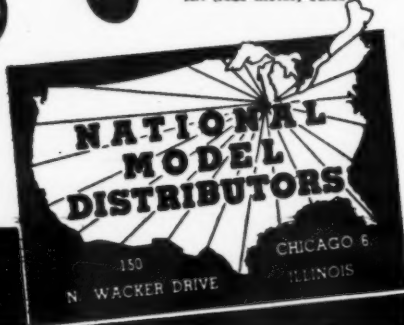
Manufactured under Jim Walker's U-Control patent No. 2232416. A proven all-balsa model, ideal for beginner or expert. Sturdy. Easy to build. Easy to repair. Highly maneuverable. Operates on Class A, B or C motor. Fuselage blocks are profile cut to side and top outlines for easy construction. Balsa covered wings, 36" span. Redi-cut ribs and other prefabricated parts. Kit includes control parts, step-by-step plans construction, painting and flying instructions. Kit (less motor) \$5.95.

Send for Complete List of  
**TIGER TOOLS AND  
ACCESSORIES**

Be the First With the Latest  
Through NATIONAL Service!

### STRATO-KITTIN

The Class A and B speed champ and a smaller version of the Strato-Cat. New type construction. Class A and B. Kit (less motor) \$2.95.



## Model Airplane NEWSLETTER

by AL LEWIS

**W**ATCH for increased interest in balsa-wood by the aircraft industry. More and more attention is being focused on "sandwich" construction in which plywood, dural or other materials are bonded to sheet balsa. These are claimed to offer a wave-free wing surface which will better preserve laminar flow, the goal of all designers.

This is of much interest to aeromodelers who may be able to dope out their own "sandwich" constructions or methods which simplify building, especially from the time angle. Imports of balsa are expected to continue on a large basis, which means we should be getting better and better wood through our suppliers.

Also, according to a lab report from a wood products outfit, quipo (or bongo) wood may soon be serving as a substitute. It is lighter than balsa although inferior in tensile or compressive strength parallel to the grain; but perpendicular to the grain it has been found superior to balsa in compression strength. For a while, though, we'll probably be sticking to balsa.

Wait until you get to that next National Meet! Ah, the friendships to be renewed—everyone seems to have lost track of everybody else. One of the lads we have heard from is W. Hewitt Phillips, winner of the Sperry Award for younger men, and famed model aero experimenter—Hew is busier'n'a bird dog at the NACA's Stability Department and still hopeful of building a Flying Wing model as the one automatically stable craft. Um-m-m.

Others flashing across our line of vision have included Dick Everett, holder of national records and constant contest winner. Dick has been Chief of Operations at a NACA Spin Tunnel—not long ago he tangled with an electric fan, nothing serious. For a while he was neglecting modeling for photography.

One of New England's first and most competent feminine aero contestants, Jane Christensen, has been serving as radio inspector at Harvey Radio Labs. Bruno Marchi, technical director of the AMA was last heard from as Base Training Officer at Dow Field, Bangor, Me. And it was Major (!) Vernon Boehle last time that particular individual passed by.

Yes, it will be a grand get-together, all right. Looking forward to seeing you, too.

It seems as if everybody of late has become exceedingly airport conscious. Carroll Moon, AMA Contest Board Chairman, notes that thousands of new airports have been built throughout the country during the past war years. Now many of these will be abandoned; but as Carroll points out they still will be wonderful for model plane flying.

Clarence Mooney, while managing the National Aviation Trades Association's headquarters office, made a strong appeal for model aero leaders and airport managers to get together to their mutual advantage. Mooney figured airports could be used as model sites on certain days.

It all sounds good to us. We agree you can't mix full scale flying with model meets; but an abandoned airfield—ah, that would be something! Or the full run of a field on certain days—that would be okay (Turn to page 12)



# Consolidated MODEL ENGINEERING CO.

## GIANT DE LUXE SOLIDS with "Redi-Carved" FUSELAGE

The first—the ORIGINAL "REDI-CARVED" fuselage models. Each kit includes a 'finger smooth' fuselage carved to hairline precision on our own equipment, in our own plant . . . NO CARVING—NO SHAPING—merely sand. That's all! . . . SAVE 4 to 6 HOURS tedious work in completing the model! MAKE THIS TEST: Open a Consolidated Kit. Compare it with other kits. See how much MORE you receive. Not only wood—check the accessories too. A Consolidated Kit consists of CARVED FUSELAGE ('Finger Smooth' especially shaped for each model), CARVED FLOAT (With Kingfisher), CARVED BOOMS (With Lightning), TAPERED TRAILING EDGES, PRINTED CELLULOID COCKPIT, WHEEL and PROP MATERIAL, FULL COLOR INSIGNIAS, CEMENT, FULL COLOR PHOTOGRAPHIC PLANS.



### Kingfisher De Luxe Giant \$6.50

An exciting scale model with "Redi-Carved" Floats. Complete with all Extras always found in Consolidated Kits. Wonderful for Gifts for your best Modeller friends.

### SUPER MINIATURE KINGFISHER 1/4" SCALE \$2

Cabin-Type  
Class 'A' or 'B'  
Span 45"  
Length 31 1/2"  
\$2.95



2000 ft. per minute. Does wonders with any 'A' or small 'B' motor. Features a prop saving, shock absorbing motor mount. Mono-Strut Landing Gear, Double Elliptical Wing with Cantilever Monospar, Gull Design . . . Warp proof tail surface in horizontal plane . . . Snap-off Wing and Empennage attachment . . . All Balsa, dope, cement, silkspan tissue and easy-to-follow plans.

## TARPON A THRILL ON A LINE

**\$10.75**

Tarpon is licensed under J. Walker 'U' Control Pat. No. 2,292,416



You may never get off the ground yourself but you will NEVER forget your thrill at real flight with this sensational TARPON! Hundreds of spellbound modellers have seen this model perform. . . . Here at Consolidated we waited patiently for Control-Line perfection. Now! It's yours! . . . Your Tarpon Kit contains a completely finished "Redi-Hollowed" 2 piece fuselage requiring only sanding. 28 1/2" span wing fits snugly into fuselage ceiling giving flight characteristics—and strength never achieved before. "Redi-Hollowed" fuselage provides a compact layout for motor (from small 'B' to largest 'C'), battery, coil, condenser and control-line device. All units easy to get at—always! . . . Your Tarpon Kit contains all needed materials: Printed balsa wing ribs . . . Cut to shape vertical fin . . . Stabilizer and elevator . . . Flitex for stab-hinges . . . Eyelets for entry of control-lines through fuselage and all items for control set-up . . . Large sized, super-detailed, illustrated plans with much helpful building and flying material . . . U-Control Accessories: 100 ft. flying wire—75c; 2" wheels—pr. 50c.



### SLIM JIM BATTERY BOX

Holds 2 pen-cell batteries in line, distributing weight equally over center of gravity. Light weight aluminum, precision design and construction. Each 40c.

**Consolidated**  
3087 THIRD AVENUE  
N. Y. C. 56, N. Y.

GIANT SOLIDS		U-CONTROL	
Bell Airacobra	\$2.50	Tarpon	\$10.75
Curtis P-40	\$2.50	SUPER MINIATURES	
Focke-Wulf 190	\$2.50	Focke-Wulf 190	\$1.25
Grumman		Grumman	
Wildcat	\$2.50	Hellcat	\$1.25
North American		Hawker	
P-51	\$2.50	Typhoon	\$1.25
Republic P-47	\$2.50	Jap Zero	\$1.25
Spitfire	\$2.50	North American	
Grumman		P-51	\$1.25
Avenger	\$3.00	Republic P-47	\$1.25
Hawker		Boeing B-17	\$1.50
Typhoon	\$3.00	Kingfisher	\$2.00
Martin B-26	\$3.00	Lockheed P-38	\$2.00
North American		GAS KITS	
B-25	\$3.00	Roamer	\$2.95
Vought Corsair	\$3.00	Strato-Spear	\$2.95
Lockheed P-38	\$3.50	Tapper-A	\$3.50
DeHavilland		Javelin A & B	\$3.95
Mosquito	\$4.00	Pacer-B	\$3.95
N. A. B-25 (deluxe)	\$4.00	Pacer-C	\$4.95
De. Mosquito (deluxe)	\$5.00	ACCESSORIES	
Consolidated		Accessory Kit	\$1.00
B-24	\$6.50	Class B Floats	\$1.50
Kingfisher	\$6.50	Pen-Light	
Boeing B-17	\$7.50	Battery Box	\$ 40

### BY MAIL

If no dealer near you, order direct adding 25c per kit for solid, flying kits; 50c for Tarpon; 10c battery holder. Foreign orders include additional charge for added shipping costs.



### SEAPLANE FLOATS—22" Long

A complete kit of Navy Type Floats for Model Seaplanes. Sustains up to 3 lbs. Planked and covered type. Kit includes planks, Silkspan tissue, strips, nose-blocks, metal for rudders, cement and dope. Full size, step by step plans. 2 float kit \$7.50



British Supermarine "SPITFIRE"  
27 1/8" MFM Kit SF-73 \$3.00



Vought-Sikorsky "CORSAIR"  
30 1/8" MFM Kit SF-79 \$3.50



Messerschmitt ME-109  
24 1/8" MFM Kit SF-74 \$3.00



Bell P-39 "AIRACOBRA"  
25 1/2" MFM Kit SF-76 \$3.00



Curtiss P-40  
28 1/4" MFM Kit SF-77 \$3.00



Hawker "HURRICANE"  
30" MFM Kit SF-75 \$3.00



Republic P-47 "THUNDERBOLT"  
30 1/4" MFM Kit SF-81 \$4.00



"FOCKE-WULF" 190  
27 1/4" MFM Kit SF-82 \$3.00

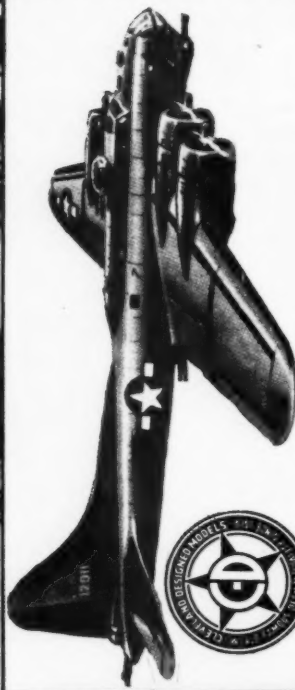


Junkers JU 87 "STUKA"  
34" MFM Kit SF-84 \$3.50



THIS IS A  
REAL  
CHRISTMAS  
PRESENT—  
A CLEVELAND  
KIT!

GEE, THIS IS A  
SWELL GIFT—  
A CLEVELAND KIT.  
AM I LUCKY!



### Most Famous of Planes — BOEING B-17

The renowned "Flying Fortress," known as the most famous plane of World War II. Thoroughly symbolic of the might of America's air power. An absolute "must" among serious model builders, for it's a perfect memento of the AAF. Span 77 1/2". MFM Kit SF-100.

**\$12.50**

### WHAT CLEVELAND MFM KITS CONTAIN

These Master Flying Model kits, in addition to a very large, authentic and super-detailed drawing, contain all the necessary: strip wood, blocks, tissue, wire, celluloid, wheels, bearing buttons, washers, dowels, specially turned or sawn parts (where needed), wing, propeller and other accessories. Each kit contains 7 sheets of printed out wood patterns containing many dozens of finely detailed parts—there is really nothing else like them!

It'll Be a Merry Christmas for Everybody Getting CLEVELAND MODELS



Lockheed P-38 "LIGHTNING"  
49 3/4" MFM Kit SF-95, \$7.50



North American P-51 "MUSTANG"  
31 1/2" MFM Kit SF-91, \$3.00



Grumman F4U "CORSAIR"  
39 1/4" MFM Kit SF-83, \$4.00



Grumman F6F "HELLCAT"  
31 1/2" MFM Kit SF-87, \$3.50



Grumman F3H "CORSAIR"  
31 1/2" MFM Kit SF-87, \$3.50



Westland "WHIRLWIND"  
35 1/2" MFM Kit SF-105, \$3.50



North American B-25 "MITCHELL"  
55" MFM Kit SF-125, \$8.50



Lockheed P-38 "LIGHTNING"  
49 3/4" MFM Kit SF-95, \$7.50



NORTHROP "BLACK WIDOW" Kit T-155 \$1.50

All "T" kits contain the famous C-D type full-size drawing, packed with instructions, all printed out curved wood parts, wood strips cut to exact size, cement, tissue, insignia, wheels, prop materials, etc., etc. With less detail than the SF group, they were designed to give exceptional flights, and they present a realistic appearance in the air. Supermarine "Spitfire" Kit T73; North American "Mustang" Kit T91; Piper "Cub" Kit T94; Lockheed "Lightning" P-38" Kit T85; Hawker "Typhoon" Kit T99; Westland "Whirlwind" Kit T105.

**All**  
**3 Ft. Wingspan**  
**Each Kit Only**  
**\$1.50**

Send 5c for complete C-D Catalog—none free  
**CLEVELAND MODEL & SUPPLY COMPANY**  
World's Largest Manufacturers of Quality Model Aircraft—since 1919  
4508F10 Lorain Ave. ★ ★ ★ Cleveland 2, Ohio, U.S.A.



Douglas A-20 "HAVOC"  
46" MFM Kit SF-115, \$2.50



Douglas SBD "DAUNTLESS"  
30 1/2" MFM Kit SF-40, \$3.50



Douglas A-20 "HAVOC or BOSTON"  
46" MFM Kit SF-115, \$2.50



4 ft. EAGLELET Secondary Glider  
C-D Kit ES018 \$5.00



Giant 10 ft. ALBATROSS SOARER \$3.50  
C-D Kit ES072



Cleveland Tether SHARPIE

A most unusual line-controlled model for only \$1.00. Uses any type motor over 10 m.p.h. in Class "C." Beautiful lines, easily built. Span 18". C-D Kit GPL-5023 (less hardware), only \$1.00.

**Always See Your Dealer First!!**  
If he can't supply you, send check or money order direct—cash at your own risk. Minimum order, \$1.00. No C.D.'s include 20c packing-postage charge with all orders. Postal restrictions do not permit shipments except to customers in U. S., Canada and Mexico unless on military order. For servicemen still stationed in U. S., we advise against using APO or Fleet P.O. box numbers to avoid



Martin B-26 "MARAUDER"  
48 3/4" MFM Kit SF-135, \$8.50



**BIGGER!!**

8 ft. Super CONDOR SOARER \$1.00  
C-D Kit ES019



**BIGGEST!!!**



Cleveland PLAYBOYS

These outstanding prize-winning free-flight models have been top placing "in the money" since their introduction.

PLAYBOY JR., Span 55", Class "B", Kit GP-5006 (less cement), \$2.95.  
PLAYBOY SR., (Illustr.), Span 70 1/2", Class "C", Kit GP-5017 (less cement), \$4.95.

usual delays because of parcel post restrictions. Use a local address near you if possible. For P.P. Special Delivery in U.S. only, add 25c. (Ohio residents only, add 3% sales tax). All kit contents and prices subject to change or cancellation without notice.

*When You Build CLEVELAND MODELS You're Building the Models that Pilots, Bombardiers, Instructors, Cadets-in-Training, and Men in All Branches of War Service Build!*



# Headquarters for MOTORS - free propellor with every motor!

**SUPER-SCRAPPER Class "B"**  
Complete with Coil and Condenser—postpaid... **\$18.50**

**SUPER HURRICANE Class "B"**  
Complete with Coil Condenser—postpaid... **\$24.95**

**VIVELL "35" Class "C"**  
POSTPAID ONLY... **\$18.00**

**ROCKET (.46 cu. in) Class "C"** **\$22.50**  
POSTPAID ONLY

**HERKIMER SUPER "60"** **\$24.00**  
With Coil and Condenser—postpaid

**ATWOOD CHAMPION—"C"** **\$33.50**  
**CANNON Model 300—"B"** **\$18.50**  
**CANNON Model 358—"C"** **\$19.75**  
**MORTON Class "B"** **\$21.50**  
**MORTON M-5 3 cyl. radial.** **\$79.30**

For earliest possible delivery on motors listed below, send in your ORDER NOW! We will ship as soon as production permits.

**BUNCH CONTESTOR D60-S—"C"** **\$24.50**  
**BUNCH CONTESTOR D60-R—"C"** **\$26.50**  
**MIGHTY MIDGET—"C" (knockdown)** **\$14.50**  
**OHLSSEN—"A"** **\$14.50**  
**OHLSSEN—"B"** **\$16.50**  
**OHLSSEN—"C"** **\$18.50**

**RANTAM—"A"**—(write for price)  
**RANTAM—"B"**—(write for price)  
**RANTAM—"C"**—(write for price)  
**ATOM—"A"** **\$15.50**

(Prices on some motors subject to small possible change due to O.P.A., etc.)  
We will handle all motors, as they are available—order any other motor you see advertised from us for free propeller offer—

SEND 5c IN STAMPS FOR CATALOGUE OF MOTORS, GAS KITS AND ACCESSORIES

**"JAY" SIMMONS**

3921 W. Olympic Blvd. (Dept. M5) Los Angeles 6, Calif.

MODEL SPECIALTIES

All Kits Post-Free in U. S. No Extra Charge!  
FREE FLIGHT KITS—

**VAGABOND** **\$5.50 POST-PAID**

Class C. 74" span. Cabin endurance. Takes any class C engine. Designed by Wm. Winter, Air Trails. New type plans with many special detail pictures. Formed landing gear. Stream-line wheels, liquids, and fine illus. booklet by Winter on flying and adjusting.

**VOCAL—"A" or "B"** **\$3.95**  
**BROOKLYN DODGER—"B"** **\$3.95**  
**ROCKET—"A" or "B"** **\$2.95**  
**BEE—"A" or "B"** **\$1.95**  
**SPEARHEAD JR. "A" or "B"** **\$1.95**  
**JIFFY—"A"** **\$1.50**

**U-CONTROL KITS**

**POST-PAID \$7.50**

**SNAFU ERCOUTE—"B" or "C"** **\$12.50**  
**FALCON SPEEDSTER—"B" or "C"** **\$5.95**  
**FALCON SPOSTER—"B" or "C"** **\$5.95**  
**TARPON—"A" "B" or "C"** **\$10.75**  
**HERKLEY "THUNDERBOLT"** **\$5.95**

**SPECIAL COMBINATION OFFERS!—SAVE \$5!**

**DREAMER PLUS SUPER-SCRAPPER** **\$24.00**  
**DREAMER PLUS HURRICANE** **\$20.00**  
**DREAMER PLUS VIVELL** **25.00 WITH**  
**DREAMER PLUS ROCKET** **28.25 FREE**  
**VAGABOND PLUS ROCKET** **26.50 PROP!**  
**VAGABOND PLUS VIVELL** **22.50**

NO C.O.D.'s—REMIT BY CHECK OR MONEY ORDER.  
DEALERS—Write on letterhead for information on "hot" items.

(Continued from page 8)  
too. Better case your own neighborhood; maybe somebody slipped in an airfield when you weren't looking.

**HATS-OFF-DEPT.:** This month we award the sweeping bow and raised headgear to Miss Olive Adams Baker of Boston, Mass., guiding genius of the Jordan Marsh-Boston Traveler Junior Aviation League.

Miss Baker, a whiz advertising writer, proves that you don't have to be an expert flyer like Carl Goldberg or a tycoon like William R. Hearst (remember the "Birdmen"?) to provide leadership to an up and doin' aeromodeling mob. Before she stepped in to guide the destinies of the J.A.L., Miss B. couldn't differentiate between prop wash and an out-of-sight flight. Yet by her untiring efforts and enthusiasm she has been largely responsible for the renewed vigor in Boston aeromodeling in recent months.

The Jordan-Traveler League Director, genial Tom Wildon, is an experienced designer and model flyer and a cracker-jack contest director. His every spare moment seems dedicated to bigger and better New England meets. Teamed with the aggressive Olive Baker, he is part of a combine that is bound to result in bigger and better days for the old (16 years) J.A.L.!

Always active in aeromodeling activities, the National Exchange Club has been encouraging interest in helicopter models with a nationwide contest. Local Exchange Clubs have been sponsoring events for anyone under 18... "to find a new approach to flying, to stimulate original thinking, and to encourage original design of methods for flapping the wings of a model airplane with sufficient efficiency to produce flight."

The contest idea was sparkplugged by William B. ("the Grand Old Man of American aeromodeling") Stout of Ford Tri-motor and Consolidated Aircraft fame. The competition was to be climaxed in December on the 42nd anniversary of the Wright Brothers' first flight.

Speaking of models, one you would find hard to equal in weight or worth is the wind tunnel miniature of Consolidated Vultee's Convair model #37 Pan American Clipper. Constructed of laminated birch, at a cost of \$10,000, the model is 1/26 the size of the 204 passenger, 160 ton airliner. The model measures 9 feet in wingspan and has a 7 ft. fuselage. All basic flight characteristics were obtained from the model by tunnel tests.

Here's a last minute thought for you that deserves more than passing attention. Numerous court cases have proved that if somebody picks up your gas model and sticks it behind their kitchen door you can sic the law on 'em and get it back.

Not always is it so easy to regain a motor that is stolen or lost on an out-of-sight flight and put back into competition flying or resold. What we recommend for consideration is a little deal that has been proposed many, many times.

A national model aircraft engine registry is what a lot of folks have in mind. It would be simple. Harry Vegler, Jr. of Pittsburgh started it down his way before the war.

Every manufacturer would include in his every engine box a small card that would be filled out by the purchaser and witnessed by the dealer selling the engine.

(Turn to page 62)

**Sculp-turned**  
Fuselages, Nacelles  
Smooth As Silk!

**SOLIDS with FINISHED FUSELAGE**

**SCULPTURE Technique for Realism, WOOD-TURNED for Precision**

All the hard work done for you! Fuselage completely carved (requires sanding only!) Shaped cockpit; wing and tail roots formed. Use a SCULP-TURNED Kit, B-17 \$2; Super Fort \$2.50; F-38 \$3.00 (with carved booms); P-47 \$3; Hellcat, Mustang, Vo. Corsair, Mosquito, B-26 and Douglas \$3 each. Soon! New Shooting Star!

**SCULP-TURNED** 1/4" scale. Finished 'sculp-turned' fuselage in each. **HELLCAT, THUNDER JUNIOR KITS** HOLT (P-47), MUSTANG, VO-CORSAIR, each \$1.25. New Model Kits—ready soon! Focke-Wulf 190, Curtiss Warhawk, Bell King Cobra, Hawker Tempest. See next issue for prices.

**STRATO-STREAK**  
ALL BALSA "A" FLYER

**BY MAIL**—If no dealer near you, for any kit for packing postage! No C.O.D.'s. Foreign orders, 50c add'l.

**Master MODEL CRAFT**

DEPT. MA-1

**40" Span—27" Length**  
Get into the contest-winning class with this sleek, tested kit—design! A stable, sturdy high and lone flyer. Removable motor-ignition mount! Isometric plans. Except for power units, kit is complete.

**\$2.50**

**1074 FRANKLIN AVE.**  
New York 55, N. Y.





# For Model Gifts That Are Super Deals - Buy From The Dealer Who Features The Gremlin Seal

## XMAS SALES SENSATIONS

Dealers, these items'll make your cash register jingle like Santa's sled! Order now for the greatest Xmas sales ever. Our 24-hour shipping service allows you to make last-minute orders. Ask for our catalog showing hundreds of other Xmas desirables.



### West-Craft Super Scout Car

A perfectly scaled model that's a cinch to build. Many parts pre-formed. Most parts made of wood, with plenty of Plastic, Dural and Fiberglass. Complete in a gift box. \$2.90 plus 25c parcel post.

WEST-CRAFT SUPER JEEP...\$2.90 plus 25c parcel post.



### HAWK'S GREAT NEW SOLIDS

Great fun building these handsome models! Perfection-scaled throughout! Plastic propellers. Full size 2-color plans. Complete in gift boxes.

TIGERCAT .....\$1.50

FIREBALL ..... .75

GRUMMAN AVENGER. 1.00

Plus 15c parcel post on each



### SAIL KING

A breath-taking beauty that really sails! Kit includes 110 sq. in. of sail cut to shape, Casco glue, white paint, rigging thread, and complete plans. 24 x 15 x 17. \$2 plus 15c parcel post.



### CADET SET

A complete Xmas gift: 6 solid model planes in one kit; 6 plastic canopies; 1 sander; an all-metal knife; 1 bottle of cement; 2 bottles of dope; 1 paint brush... all attractively arranged on a die-cut printed platform. An outstanding value! \$2.90 plus 25c parcel post.



### MAINGRAFT

#### P-41 BLACK WIDOW

Here's the finest solid model kit you can find! Detailed cast landing gear, propellers and motors. Delicate construction throughout. Complete plans. \$3.95 plus 25c parcel post.



### COMET SPEED-O-MATICS

Easy to build... tape in thrills! Complete kits... dope, knife, banana oil, cement, plans, insula, celluloid encapings. Nothing else to buy! MUSTANG P-51.....\$2 THUNDERBOLT P-47.....\$2 HELLCAT.....\$2 Plus 25c parcel post each



### WEASEL M-29C

Easily assembled. No carving necessary. Machined parts; 100 moulded track shoes; 40 plastic wheels. Instructions included. \$2.95 plus 25c parcel post. Rogers 40 mm Anti-Aircraft Gun.....\$2.95 plus 25c parcel post.



### TESTORS B-29

#### FLYING FORT

A swell model of our Army's B-29. Fully shaped wood parts, sandpaper, cement, printed trim, etc. \$2 plus 15c parcel post. B-17 Kit.....\$1 plus 15c parcel post.



### B. A. R. GUN

Contains hundreds of perfectly pre-fabricated and pre-formed all-metal parts. Complete with all materials, tools, instructions, plans, and hardware necessary to complete this outstanding model... postpaid \$4.95



### VIVELL

#### "35"

This small Class C Motor is capable of flying class C or large Class B models. 1/5 horsepower. All motors tested and guaranteed to run. \$15 postpaid, less coil and condenser.

### ROCKET MOTOR



Extra dependable! Features patented Rocket Intake Valve. Amazing starting ability! Superior performance! \$22.50, postpaid, less coil and condenser.



### HURRICANE MOTOR

An outstanding Class B Motor. Light in weight... 3 1/2 oz. Platinum points for longer wear and better fire power. Starts instantly. Complete with coil and condenser. \$24.95 postpaid.



### HERKIMER MOTOR

The famous OK Super-80... noted for winning contests! Deep line, high turbulence piston head, hardened cam shafts. Complete with coil, condenser, spark plug and tank. \$34 postpaid.

### ATWOOD CHAMPION

The finest power plant you can buy! Turns a 12" propeller at 10,000 RPM. Every structural part is produced from high-pressure die-cast aluminum. Designed for super-performance! Complete with coil, condenser and metal fuel tank. \$23.50 postpaid.



### DREAMER WITH

FLIGHT-CONTROLLER This sensational model is a thriller for speed, sport and precision flying. Perfect finger control. 10" wingspan. For A, B, or C motors. Cut-to-size rudders and stabilizers. 3 1/4" diameter wheels. All parts printed on balsa. Plans included. \$7.50 postpaid.



### VAGABOND

Designed especially for Class C Motors. 74" wingspan. All parts printed on balsa. Formed landing gear. 3 1/4" streamliner wheels. Complete plans included. \$5.50 postpaid, less motor.



### MASTER SOLID KITS

Fuselage fully carved. Wings cut to outline, turned wheels, die-cast props. Illustrated instruction sheets included. Hellcat, Thunderbolt, Corsair, Mustang. \$1.25 each plus 15c parcel post.



### DURA-PLANE

An outstanding control-line model made of tough, durable laminated plastic. Can be easily assembled by the most inexperienced builder within fifteen minutes and KNOW that it will fly. For B or C motors. \$21.50 postpaid.



### TOPPING'S "100" U-CONTROL FLYER

Entire plane is made of pre-formed aluminum with tough plastic wing and tail tips color-matched with Topping's three-blade plastic propeller and spinner unit. For B or C motors. Plans make it a "snap" to assemble. \$10 postpaid.



### VARNEY PLASTIC SUBMARINE



For detailed construction and ease in assembling, this new sub is unsurpassed! It's made entirely of molded plastic and is supported by a streamline base and a section of glass, making it appear to be in suspension. All parts fit together by means of cast lugs and molded holes or into indicated positions. The result: The finest submarine model available! \$5 postpaid. Varney PT Boat \$7.95 postpaid.

NO C. O. D. ORDERS ACCEPTED. On orders under \$1 add 20% for parcel post; \$1 to \$5 add 10% (except where postage is otherwise stated). Over \$5 postpaid. All shipments are insured against loss if you use money orders or postal notes. Do not send cash.

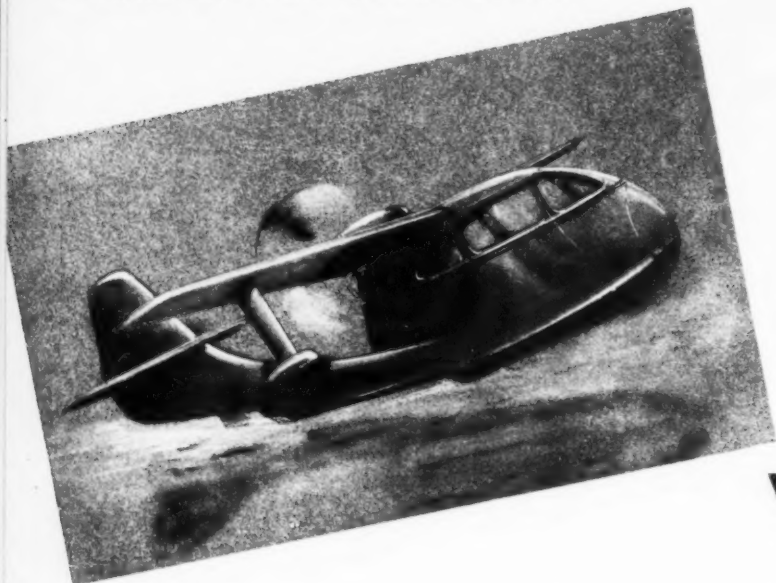


AMERICA'S GREAT HOBBY AND MODEL FAIR

# B. PAUL INC

N. E. COR. 6TH & MARKET STS  
DEPT. M-1, PHILADELPHIA 6, PA.

## PLANE ON THE COVER MODEL



by MARSHALL S. GREEN

# 'SEABEE'

FOR the many control line fans who get a real kick out of realism, no greater thrill can be experienced than piloting this miniature of Republic's smart, new, personal amphibian. This particular scale model has been designed to take off and land on water, which in itself constitutes a major incentive to build it.

Since drawing up the first set of plans many revisions and structural simplifications suggested themselves; these have all been included here and it is thought that anyone with a little model building experience will have no difficulty in following the drawings and the text.

**LAYOUT**—Having fastened a 40" x 60" piece of clean, uncreased brown wrapping paper onto the dining room table with scotch tape, start by laying down the centerline for the plan view and the base line for the elevation and then completing the two grids of 1/2" squares required for each view; be exact and keep the lines parallel, for upon accuracy de-

pends the fit of all formers and bulkheads and the ease with which the hull can be finally sheeted.

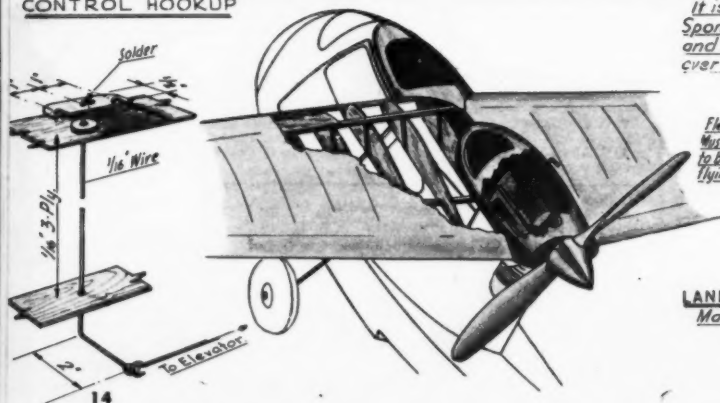
With the aid of given dimensions and the grid, draw up the elevation (side view) and plan, flow in the curves smoothly with "french curves" and "sweeps," if available; if not do the best possible by freehand for small curves and, for the long sweeps, a straight grained piece of 1/8" x 3/16" hard balsa strip in place of a regular "spline." The balsa spline works every bit as well as a Copenhagen ship sweep and has the extra advantage of being adaptable to any desired contour. Despite the fact that neither side view nor elevation is used in actual construction of the hull, they are imperative for checking the accuracy of bulkheads and as a guide to the shape of nose block, formers, engine nacelle, as well as for building the empennage.

**HULL**—Lay out bulkheads as shown,

transfer all but Stations 1 and 6 onto medium 1/8" sheet. Bulkheads No. 1 and No. 6 are cut out of 1/8" 3-ply. Check each station with the drawing and make sure that notches for strake, chine and stringers are accurately located. Bulkhead No. 4a has cemented to it a block made from a piece of 1/2" thick oak, maple or similar hardwood in which two holes are drilled as shown. The landing detail gear on sheet No. 2 should explain the function of the block.

Actual assembly can now start. Unlike the majority of models which are built over the plans in the initial stages, the contours of the Seabee made this impractical and the construction method known as "building in air" was resorted to. This means that excepting for the keel and flying surfaces which can be assembled directly on top of the drawing, all structural components starting with the bulkheads are added and cemented in place while the structure is held free

### CONTROL HOOKUP



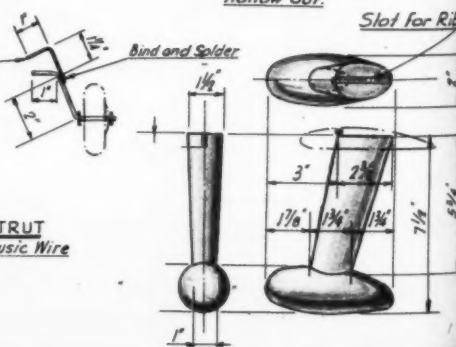
*It is recommended that Spoons be removable and not used when flying over land*

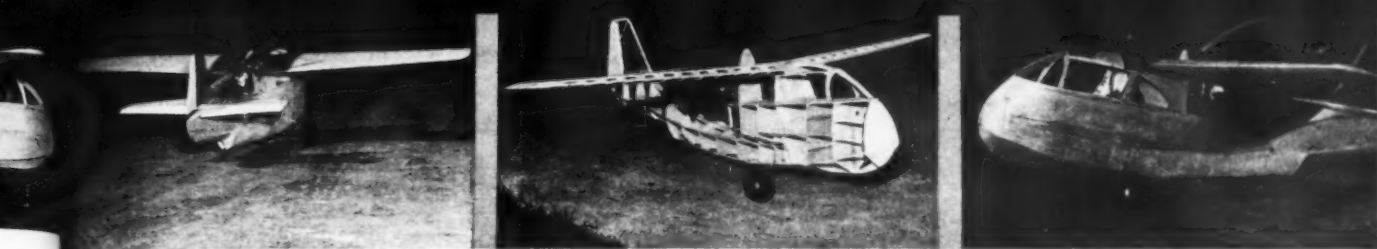
*Flexible hook of 1/16" Music Wire allows strut to be removed when flying over water.*

**LANDING GEAR STRUT**  
*Make from 1/8" Music Wire*

### SPONSONS

*Make two from Soft Balsa and Hollow out.*





from the construction board.

Check perpendicular inclination of bulkheads against the layout and sight along keel, fore and aft, to see that they are in perfect alignment behind each other.

Lay in 3/16" square chines and sheer beams, formers, wing platform, etc. to complete the basic structure. Then, with the sketch on sheet No. 2 as a guide, make up the control mechanism and install it in the hull. Make sure that tie-rod to the elevator does not bind on any of the bulkheads it passes through. Cut out sea-rudder from thin alum. and attach it to the keel.

**EMPENNAGE**—Before sheeting the hull it is recommended that the stab and elevator be made and assembled complete with hinges and control horn. The only unconventional feature of the empennage is the inverted stab which is sanded to an approximate Clark-Y type of profile after assembly. Cloth elevator hinges are quite satisfactory. Cement stab, elevator, fin and rudder as a unit to the boom, then couple up tie-rod and ele-

vator horn so that movement is smooth, free and without excessive play.

**SHEETING**—Were it not for the fact that an extremely flexible piece of 1/16" sheet were used on the original, some difficulty might have been encountered in sheeting the boom above the strake between stations 9 and 11. However, if flexible sheet is not at hand, this section can certainly be planked without any trouble. The rest of the hull takes sheets in 2" widths of soft 3/32" balsa without the remotest chance of splitting or causing any grief. Do not sheet above former A, between stations 1 and 4; instead use strips of 1/16" sheet to form window outlines—window aft of station 4 is fretted out of the sheet covering.

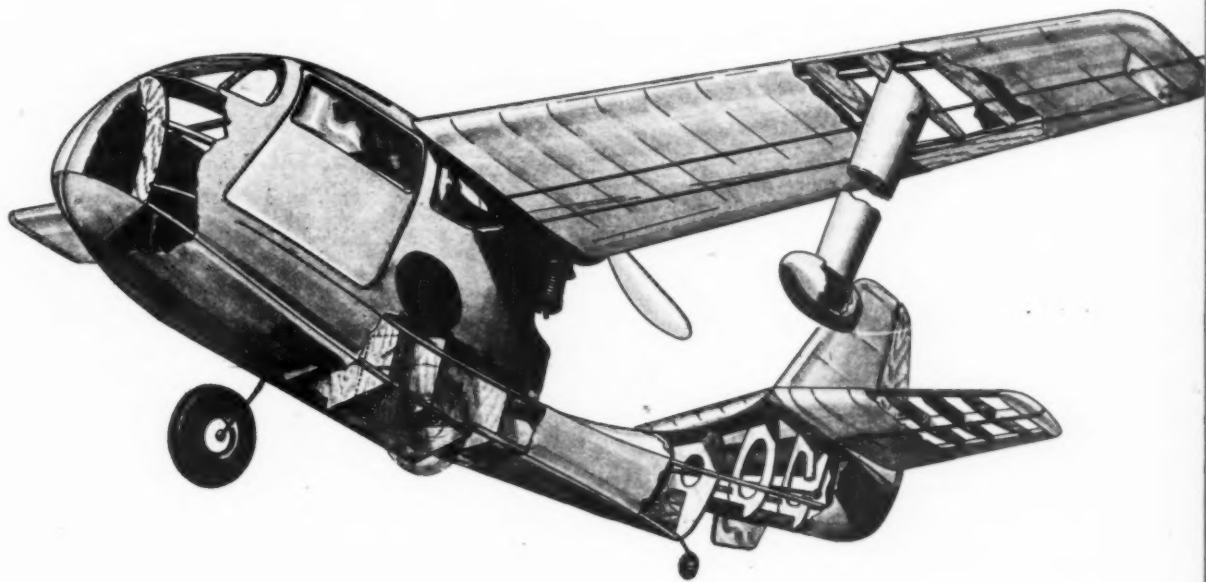
**WING**—Lay out the wing and cut out required ribs from medium 3/32" balsa. Form trailing edge and assemble each half-wing separately; when dry, fasten together with appropriately shaped 1/16" 3-ply gussets so that each tip is raised 1-1/2" above horizontal. Apply soft 1/16" sheet to leading edge and, if desired, 1/16" and 3/16" cap strips over each rib.

From the plans, shape up the soft balsa block which contains the window above the wing platform between stations 2-a and 4, hollow it out to save weight and cut out the window opening. Attach this block to the l.e. as indicated.

Check contours of engine nacelle against motor to be used before carving and hollowing. The nacelle is then also permanently attached to the center section.

In the original model the wing was cemented to the hull, there being no transportation problems to contend with. However the center section is so designed that the wing can be made removable if deemed advisable. Sponsons are carved according to the drawings and are made removable for overland flying. Reinforce ribs at sponson junction point—this was not done on the original but the particular rib in question was made out of 1/8" 3-ply and considered to be stout enough to stand up under imperfect landings.

**FINISHING**—Complete the ship by carving out the nose block to specification (Turn to page 66)







ROOT RIB - CLARK Y

ALL RIBS CUT FROM  $\frac{3}{32}$ " MED. SHEET.

1/2" SQUARES

Sheer +

Former A-2 T.L.

Former A-2

**SHEET No.1**

Scale:

DATE: 1-10-12

DATE: JAN. 1948

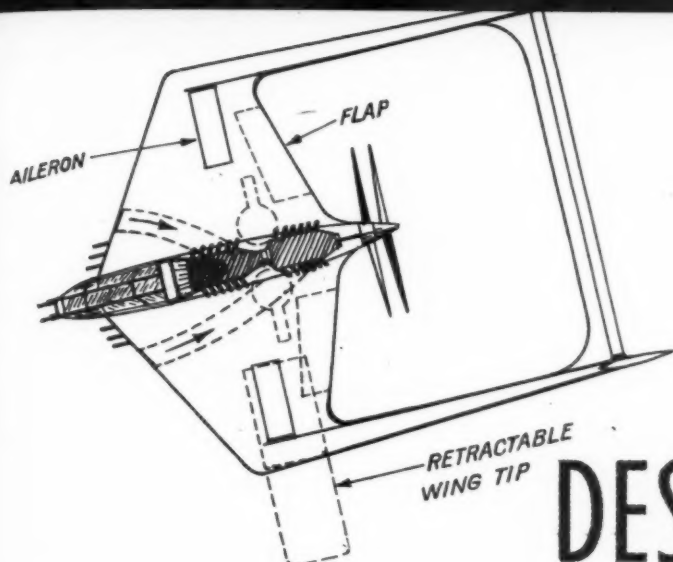
Drawn by:

AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.

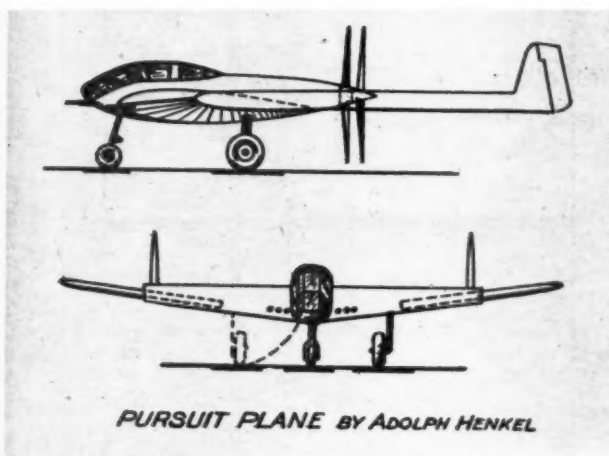
SHEET No.1  
**SEABEE**

PROPOSED DETAILS OF  
56" U-CONTROL MODEL



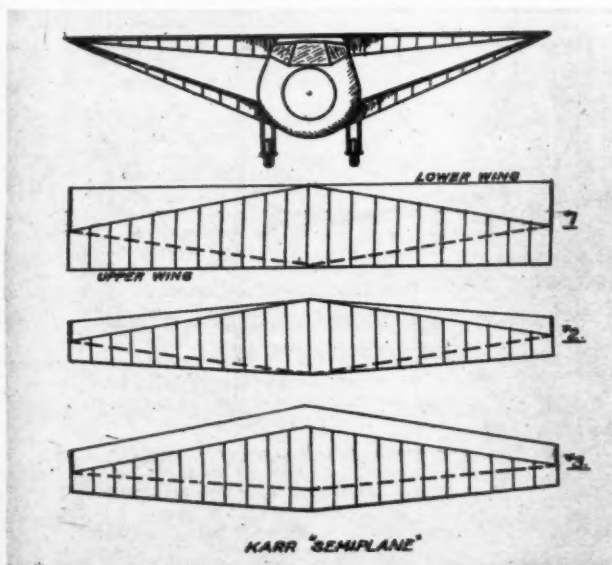


# DESIGN FORUM



PURSUIT PLANE BY ADOLPH HENKEL

(Above) Front and side views of ship shown in plan form at top of page. (Below) Several sets of wings are suggested for this design



KARR "SEMIPLANE"

VARIOUS forms of airplanes are the result of different types of performance required of them or from their type of structure. After many years of development nearly all planes follow the same general design pattern. This is true because the material from which they are built, the methods of structural design, and the performance limitations are similar. For instance, nearly all planes are of skin stressed metal structure; they nearly all use the same type of engines. This brings most airplanes within the same limits of power loading.

These limiting factors have brought about a great similarity in design of aircraft because it has been found that the present general design arrangement gives maximum performance and serviceability with the speeds, power loadings, wing loadings and other design limitations existent at the present time. This situation presents grave problems to the designer who wishes to be different and original, because any change in design usually results in inferior performance, the present type of design having been worked out from experience as giving maximum performance.

The only thing which can make it possible to improve performance in this case, therefore, is not necessarily originality in the arrangement of parts or units of the airplane, but in devices which will increase power relative to weight, maximum lift possible per square foot, reduction of drag or mechanical gadgets that will allow the pilot to increase the lift or reduce the drag at specific moments during flight. Such devices increase the range of performance because they reduce limiting factors.

As an example, let us consider the Pursuit plane submitted by Adolph Henkel of Route 2, Box 559, Lancaster, Calif., plans of which are shown here. The problem in designing such a ship is to obtain as much speed as possible, a high rate of climb, maximum ceiling, maneuverability and still be able to carry considerable weight of armament and land slow enough to circumvent crackups.

This is quite an order. Let us see what Mr. Henkel has done to obtain these qualifications. The ratio governing high speed is low drag versus high power. This design incorporates two engines placed in tandem driving coaxial props, thus reducing frontal area of engine housings. Normally two engines driving single propellers would require two separate housings placed one on each side of the central pilot compartment, so instead of merely the frontal area of a pilot compartment there would be in addition the front area of two engine nacelles. This characteristic of the design insures low drag.

Broad wingspans often are indicative of low wing loadings which give considerable drag at high speeds. Henkel's design is equipped with a small span large chord wing, the small span reducing the frontal area

(Turn to page 76)

PATTERN \* RIB ~ MAKE 20 \*  $\frac{1}{16}$ " FLAT.

TOP RIGHT WING ~ DOTTED LINE INDICATES LOWER WING.

L.E.  $\frac{3}{8}$ " x  $\frac{1}{4}$ ".

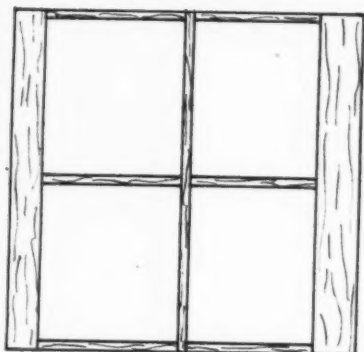
SPAR  
 $\frac{1}{16}$ " x  $\frac{1}{8}$ "  
PINE.

T.E.  $\frac{3}{16}$ " x  $\frac{1}{4}$ ".

S.C. STRUT SUP-  
PORTS ~  $\frac{1}{8}$ " FLAT.

STRUTS  
ATTACH

Blue  
White  
Red



CENTER SECTION ~ FOR  
RIB DETAIL, SEE RIB  
PATTERN ABOVE.

PLATE-2

L.G. STRUTS  
ASSEMBLY  
 $\frac{5}{16}$ " x  $\frac{1}{8}$ ".

FRONT

REAR

CENTER  
SECTION  
STRUTS

SPREADER BAR ~ SOLID BALSA.

$\frac{1}{8}$ " SQ. PINE

FRONT VIEW

$\frac{1}{2}$  SIZE.

DIHEDRAL ~ LOWER  
WING ONLY ~  $\frac{3}{4}$ ".

The original model was burned by smoke screen apparatus before finished photos were made, but it proved to be a fine flier



# THE GREAT SOPWITH 'CAMEL'

EVERY now and then in all lines of endeavor a truly great event takes place. This is true in aviation as well as in other industries. The event which the author has in mind took place in late 1917—it was the appearance in squadron strength of the famous Sopwith Camel scout fighters over the Western Front.

No sooner had the Camel received its baptism of fire than such aces as Colishaw, Little, Frew, MacLaren and others too numerous to mention began to roll up impressive numbers of victories at the expense of Kaiser Wilhelm's Imperial German Air Force. Even the great Baron Manfred von Richthofen had the somewhat disaster-filled distinction of being shot down over the Australian sector of the British lines by a young Canadian airman, Capt. A. Roy Brown, who finished the war with 13 Jerries to his confirmed credit. Yes, Brown polished off the great Red Knight who had about 82 Allied aerial scalps credited to himself. Richthofen, at the time of his death early in 1918, was flying a Fokker Triplane D.R.1.

Here are just a few of the Camel's points of interest: span 28 ft.; length 13 ft. 9 in.; speed about 115 mph, and cruising time 2½ hours. It could climb to 5,000 ft. in 5 minutes, and below 12,500 ft. it was the most maneuverable ship on any front any time during the war. All of this remarkable performance was accomplished with a 130 hp Clerget Rotary. Later in the war Camels were reaching the front equipped with 150 hp Bentley, and finally 230 hp Bentley motors. Camels even served the British Royal Navy as shipboard fighters. The decks of the old carrier *Furious* of the Royal Navy echoed to the battle rhythm of the historic Camels.

Statistics show that squadrons of the Royal Flying Corps destroyed at least 905 enemy aircraft, while the Camel units of

the Royal Naval Air Service destroyed over 370 along with one zeppelin and several kite balloons. This gives a grand total of at least 1275 enemy aircraft as having fallen to the tune of guns manned by the young British pilots. This does not count the many victims of Camels flown by the Yanks, Belgians and even French; yes, even the latter purchased some Camels for their "Chasse" escadrilles. With their two twin Vickers guns (sometimes one Vickers was mounted, supplemented by a Lewis gun over the center section which was uncovered for better visibility), the Camel pilots proceeded to whip many times their number of Jerries.

During the 1920's the Sopwith firm underwent a change in organization and emerged as the now famous Hawker Aircraft Co. The established and proven aeronautical design principles remained,

however, and the modern Hawker Hurricane, Typhoon, and Tempest fighters of current fame are the direct descendants of the Sopwith Camel, Snipe, Dolphin, etc.

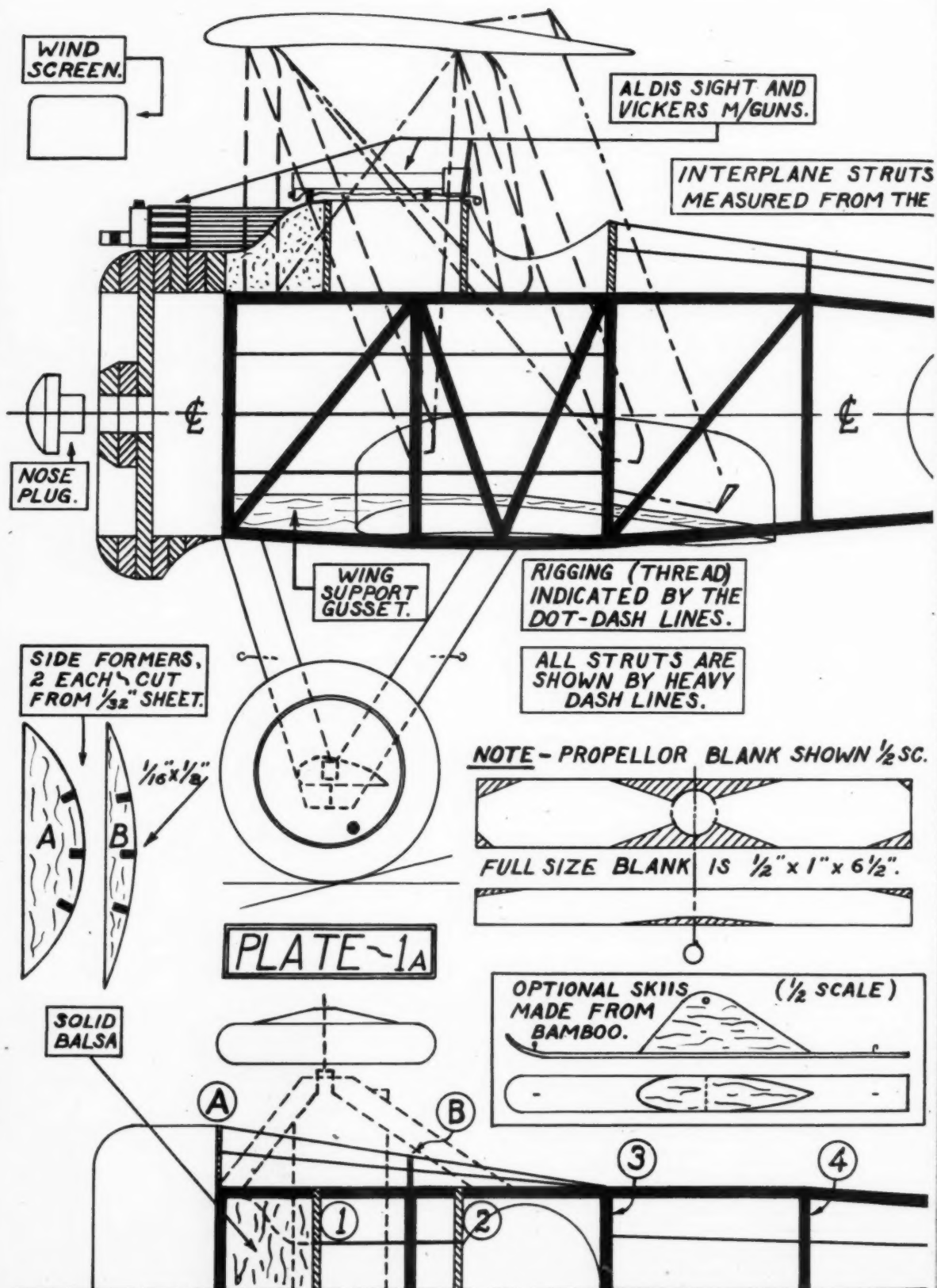
With this background in mind, you can readily see that no modeler's tarmac is complete without one of the greatest fighter planes that ever worried the "Master Race." If the accompanying plans and instructions are followed, you will be rewarded with a model that will be a beauty to behold, and one that will be a thrill to fly.

One word of caution: the author strongly recommends that no accessories such as smoke-screen apparatus be installed. The writer, when he built the model pictured here, was interested in various gadgets. If he had not been in such a hurry to try out such miniature

(Turn to page 54)








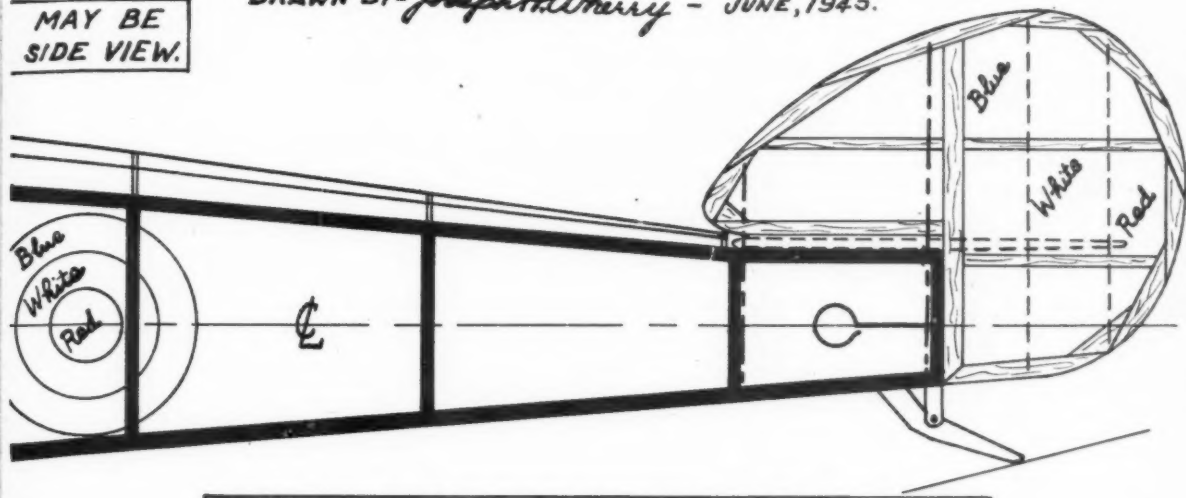
# BRITISH-SOPWITH "Camel", 1917-18 FIGHTER

FLYING SCALE MODEL

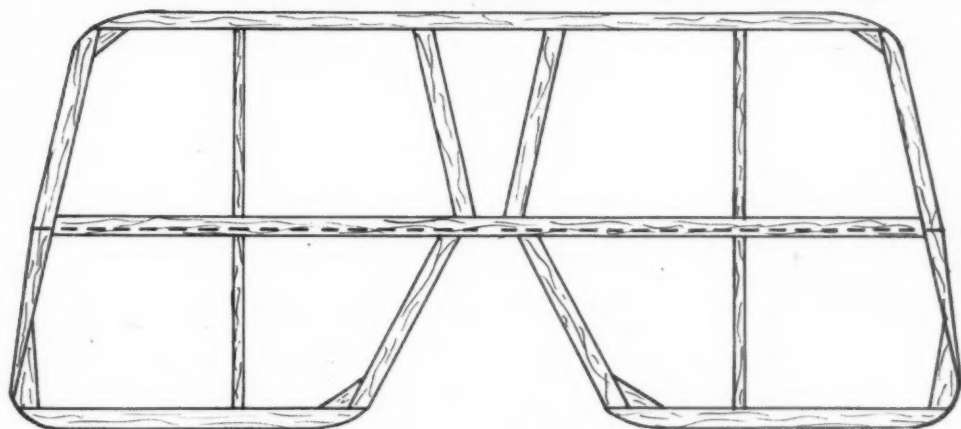
SCALE ~   
0 3' 6" 9" 1' 2' 3'  
APPROX. .71" TO FOOT.

DRAWN BY- Joseph H. Wherry - JUNE, 1945.

MAY BE  
SIDE VIEW.

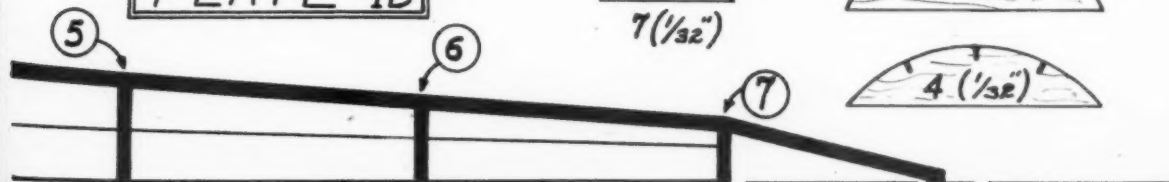


CONTROL SURFACE OUTLINES SHOWN BY DASHES.



FORMERS FOR THE  
TOP OF FUSILAGE~  
MAKE ONE OF EACH.  
ALL STRINGERS ARE  
1/32" X 1/16" HARD BALSA.

PLATE-1B



## PLANE ON THE COVER



by SETH BABITS

# REPUBLIC SEABEE

**Photos show prototype Seabee; drawings cover production model which was not completed when this was prepared.**

JUST to what extent has the personal plane gripped America's imagination? How much has it altered the idyllic picture so consistently stressed in romantic tales? Has the dream plane superseded the dream girl?

And is it possible that a man, subjected to imprisonment and the subsequent tortures for which the Japs are notorious, can keep vivid within his thoughts a pleasure plane? The answer is "yes," if only to judge by Lt. Com. G. A. Newman, who while in a Jap camp in Tokyo airmailed an order signed for a *Seabee*, four place amphibian, to Republic Aviation in Farmingdale, L.I.

If nothing more, the above is an indication of the definite place the pleasure plane has in the plans of Mr. and Mrs. Joe America, as well as in the calculations of men and women the world over.

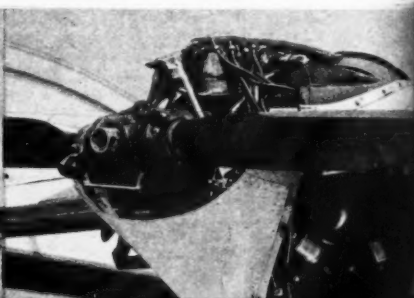
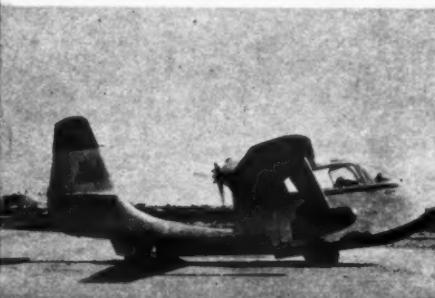
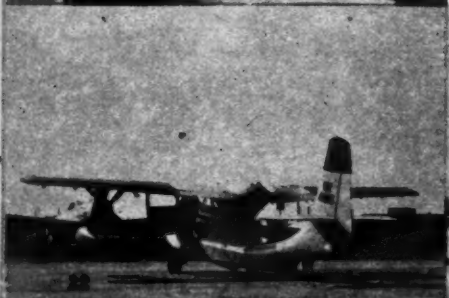
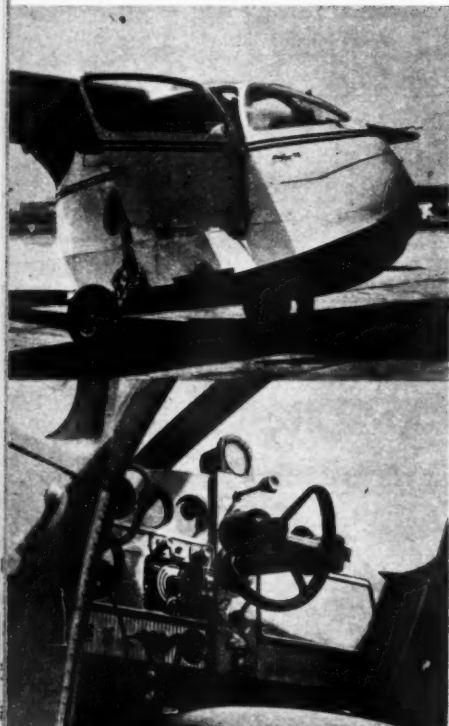
In the early days of 1931, when the design for the *Seabee* was a gleam in P. H. Spencer's hazel eyes, he foresaw that the advent of the personal amphibian would open new horizons for the doctor, lawyer, missionary, commuter and sportsman. Perhaps the lean six-footer "Spence," as he is usually called, visualized the amphibian rising out of study and experiment to become part of an overall scheme

which would knit peoples in closer bonds of neighborliness. If so, Spence was right on the beam. For even though Republic's all metal monoplane is not scheduled to roll off the assembly lines until next Spring, Republic has recorded on its books approximately 4000 orders and a flood of inquiries.

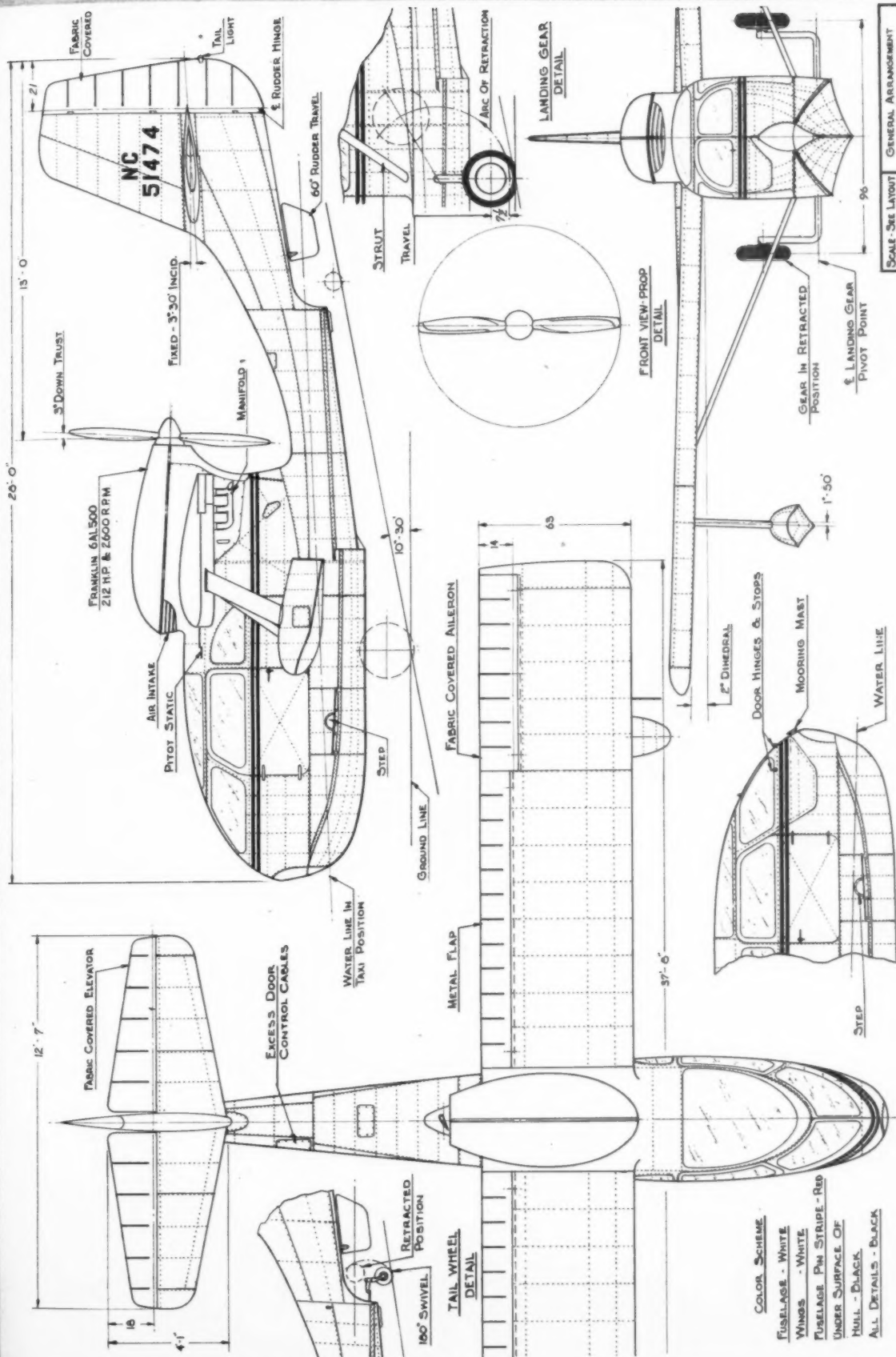
Spence's amphibian experiences date back to his earliest contacts with actual flying. In the summer of 1913 he constructed a biplane fitted with twin pontoons and shoulder yoke controls. He called the plane the *Courant*, and for power plant used a 15 mph motorboat and 250 ft. of  $\frac{1}{4}$ " manila rope. He advanced from the "towing" stage to his first motor driven plane 10 months later. In this flyingboat, he soloed two miles down the Connecticut River at about 25 ft. above water.

With the advent of cold weather Spence transformed his *Courant* into a landplane. During November and December of 1914 he was a familiar figure around the Carter Oak Park (Hartford) race track. One day when flying around the track the inside lower wing of the plane hooked the fence encircling the track and he was thrown out of the plane. It was banked

(Turn to page 64)

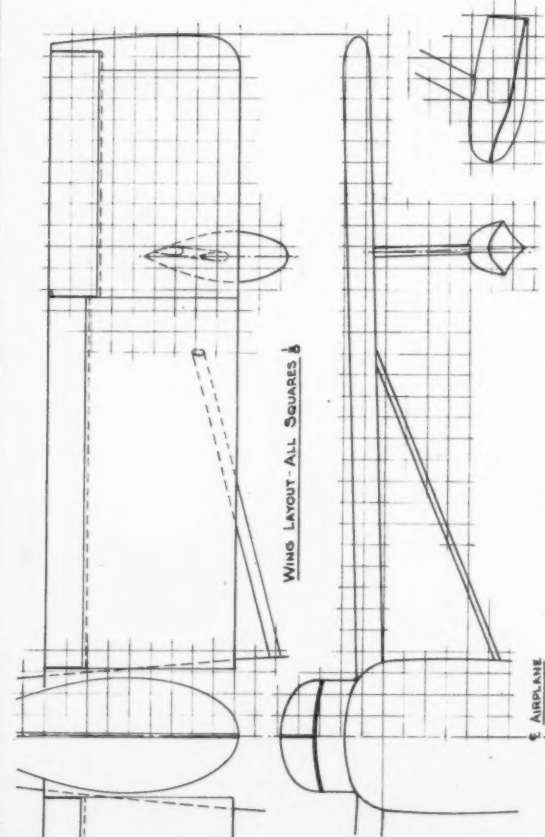




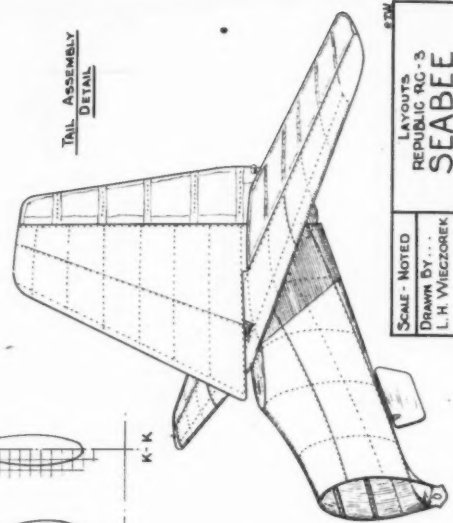
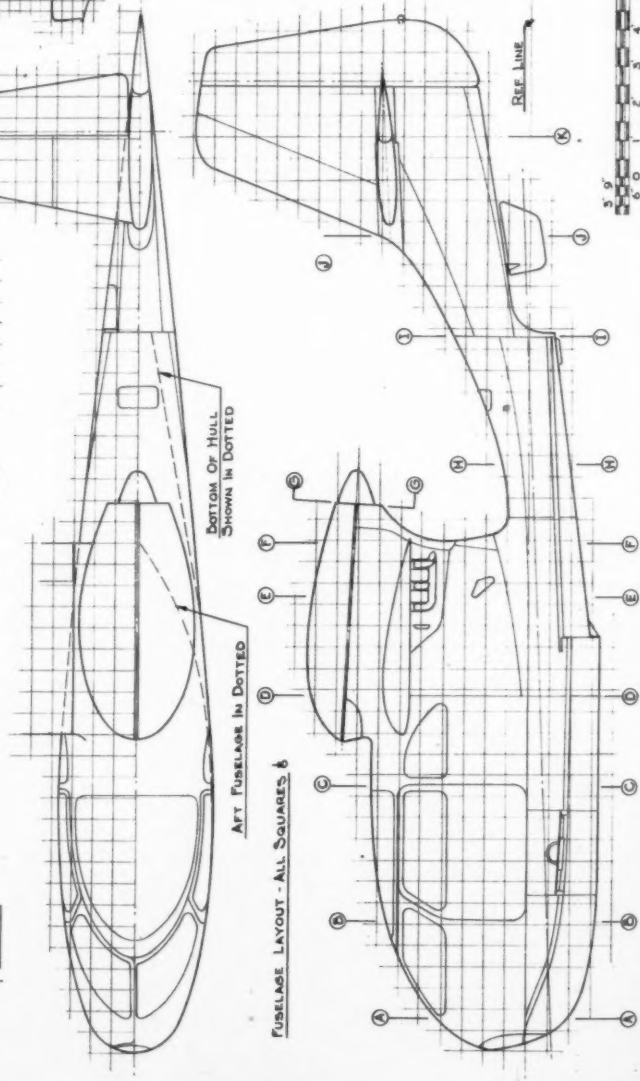
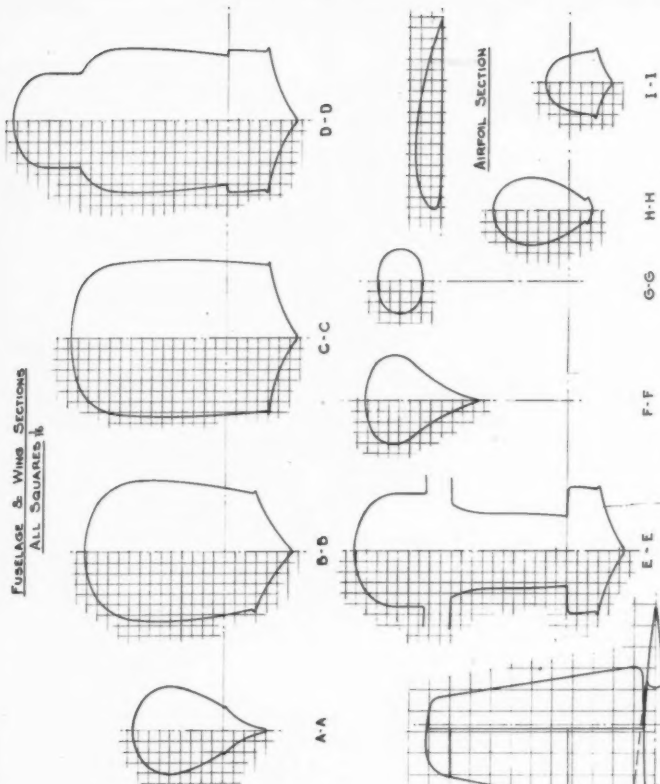


SCALE - SEE LAYOUT  
GENERAL ARRANGEMENT  
REPUBLIC RC-5  
DRAWN BY  
L.H. WIEGZOREK  
**SEABEE**

DETAIL - RIGHT SIDE



FUSELAGE & WING SECTIONS  
ALL SQUARES 1/8"



SCALE - NOTED  
DRAWN BY...  
L. H. WIECZOREK

LAYOUTS  
REPUBLIC RC-3  
SEABEE



## The Kid

SINCE it was first introduced into model competition back in June 1944, the Kid has made quite a name for itself for consistency in winning high places in all the contests it has entered. It is easy to build, has enough strength to hold together but no excess construction to add weight. Above all, it possesses the ability to absorb all the power the motor is capable of producing.

It was this model that won the 1944 Metropolitan Championships for its designer. The Kid possesses a terrific climb which is guaranteed to make any other ship look like it is power gliding. As an added feature it has realistic lines, sporting a genuine cabin, and it thoroughly disproves the theory that a high pylon and retracting wheels are necessary to obtain good performance.

**FUSELAGE**—Crutch construction was chosen for the fuselage because of its abnormal strength and ease of building. First step after enlarging the plans is to obtain 2 lengths of  $3/16" \times 1/2"$  balsa and one length of  $3/16" \times 1/2"$  bass for the motor bearers. The bass is spliced to the balsa where shown and then they are laid on the plan. Crosspieces are cut from  $1/8" \times 1/2"$  and inserted in their respective places. Next construct the top formers, 2t, 3t, etc. and glue in place. Remove the crutch from the plans, make and add the lower formers. Install firewall and bind the landing gear in place. Cut out the

wing rest and glue in position. Take two lengths of  $1/8" \times 1/4"$  bass for the top and bottom stringers, then place the remaining stringers ( $1/8"$  sq.) in place and glue. The cowl is made from two blocks glued together, carved, then split apart and hollowed out.

**WING**—The wing is built in four separate sections: two tip panels and two center panels. First, cut out all the ribs and wing tip outlines; then put the spars and trailing edge in place and insert the ribs. After all sections are completed, cut the dihedral braces from  $3/32"$  hardwood and assemble the sections into one unit. The false ribs may then be inserted into position. Use plenty of glue at the joints. Reglue all joints and put wing aside to dry.

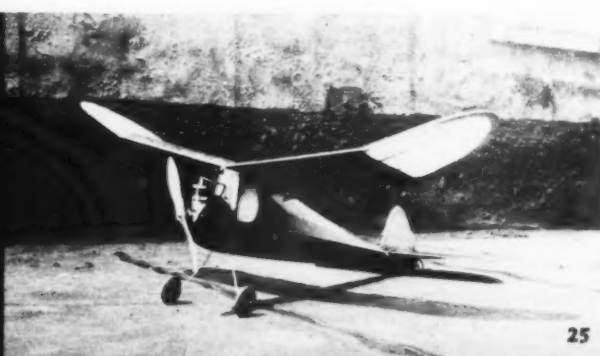
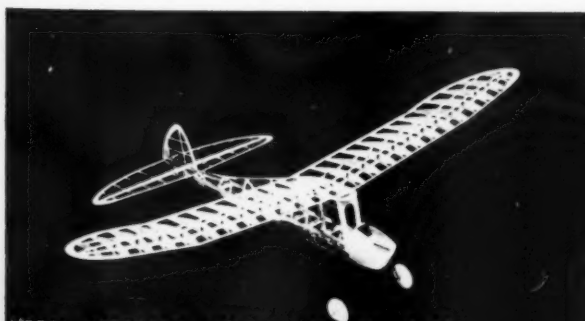
**STABILIZER**—First cut out all outlines. Pin these in place and put the leading edge in position, being sure to use waxpaper over the plans as you may want to use them again. Next, select a hard straight length of  $1/8" \times 1/2"$  balsa for the spar. Taper to  $1/8"$  at tip and place in position. Then obtain some  $1/16"$  sheet and cut into strips  $1/2"$  wide; these are for the ribs. Insert the rectangular pieces into position and glue. When assembly is dry, remove from plan, cut airfoil to shape and finish with fine sandpaper.

**RUDDER**—The rudder is last on the construction list. The outlines are cut from  $3/16"$  medium balsa and pinned to

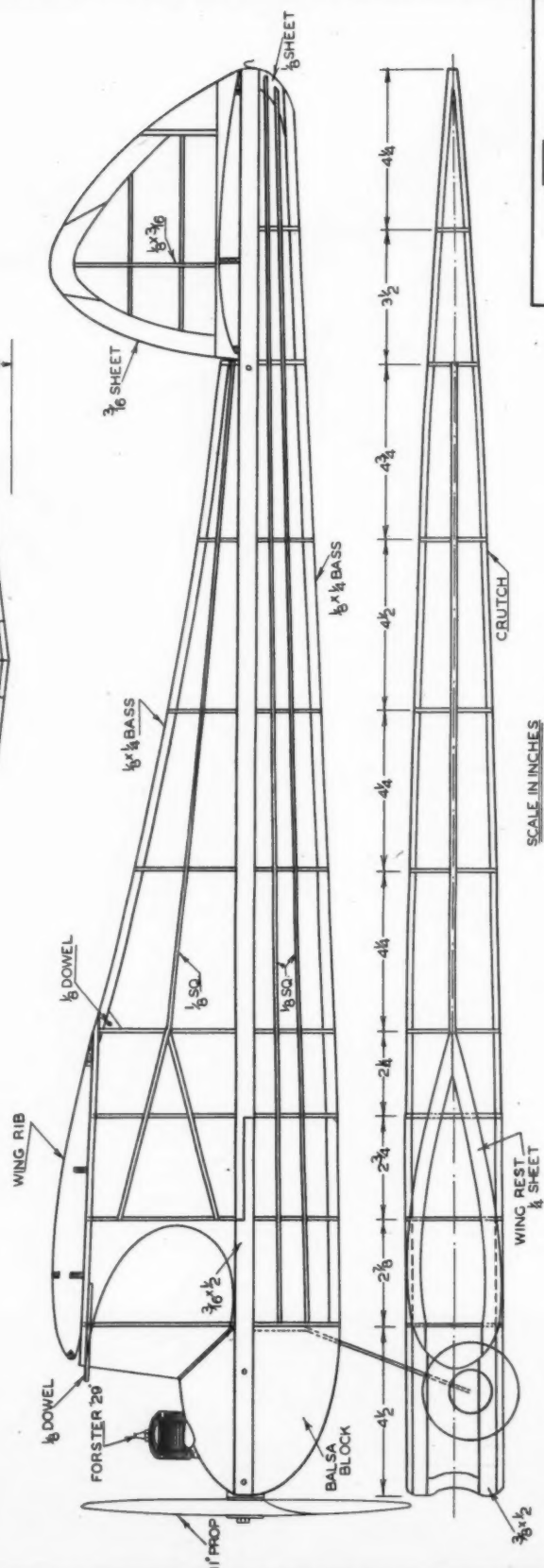
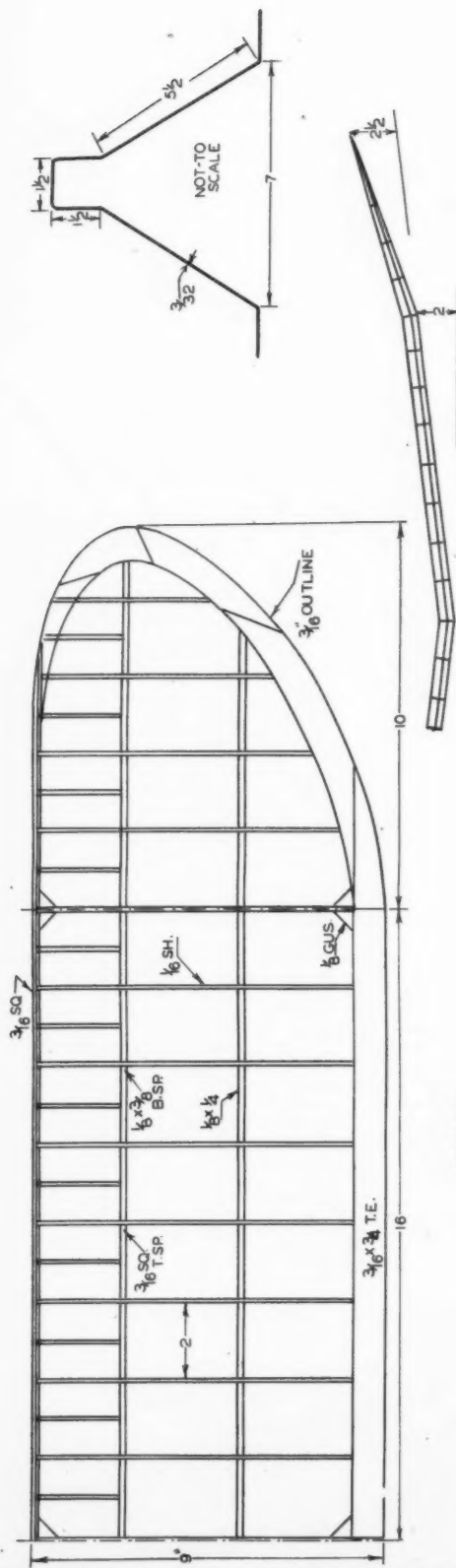
the plans. Internal construction is  $3/16" \times 1/8"$  and is put in next. When dry, remove from plans and sand to streamline shape.

**COVERING**—The wings of the original Kid were covered with red Silkspar and had white tips. Stabilizer was red, rudder white and the fuselage was silk covered and doped yellow. The wing and stab are covered with the grain of the Silkspar going spanwise. Use wet paper, it's easier to work with. When covering is finished the paper will shrink without being re-wet. When all surfaces are covered and dry, apply 4 coats of clear dope and finally 2 coats of yellow to the fuselage.

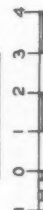
**FLYING**—Before testing the model be sure the c.g. is 60% of the chord back from the leading edge of the wing. Being this far back it enables the ship to circle tightly without danger of spinning in. Select an open field (grass covered) and glide the model from shoulder height. If it dives, add incidence; if it stalls, vice versa. The motor is installed with  $3/32"$  right thrust (on an 11" prop) and no down thrust. When the glide is set, head for the nearest flying field with tool box in hand. Use low power on the first few flights and work in a right spiral climb and a tight left glide. When all is set, open her up wide and beg, borrow or steal some means of transportation on which to chase your ship—you'll need it!





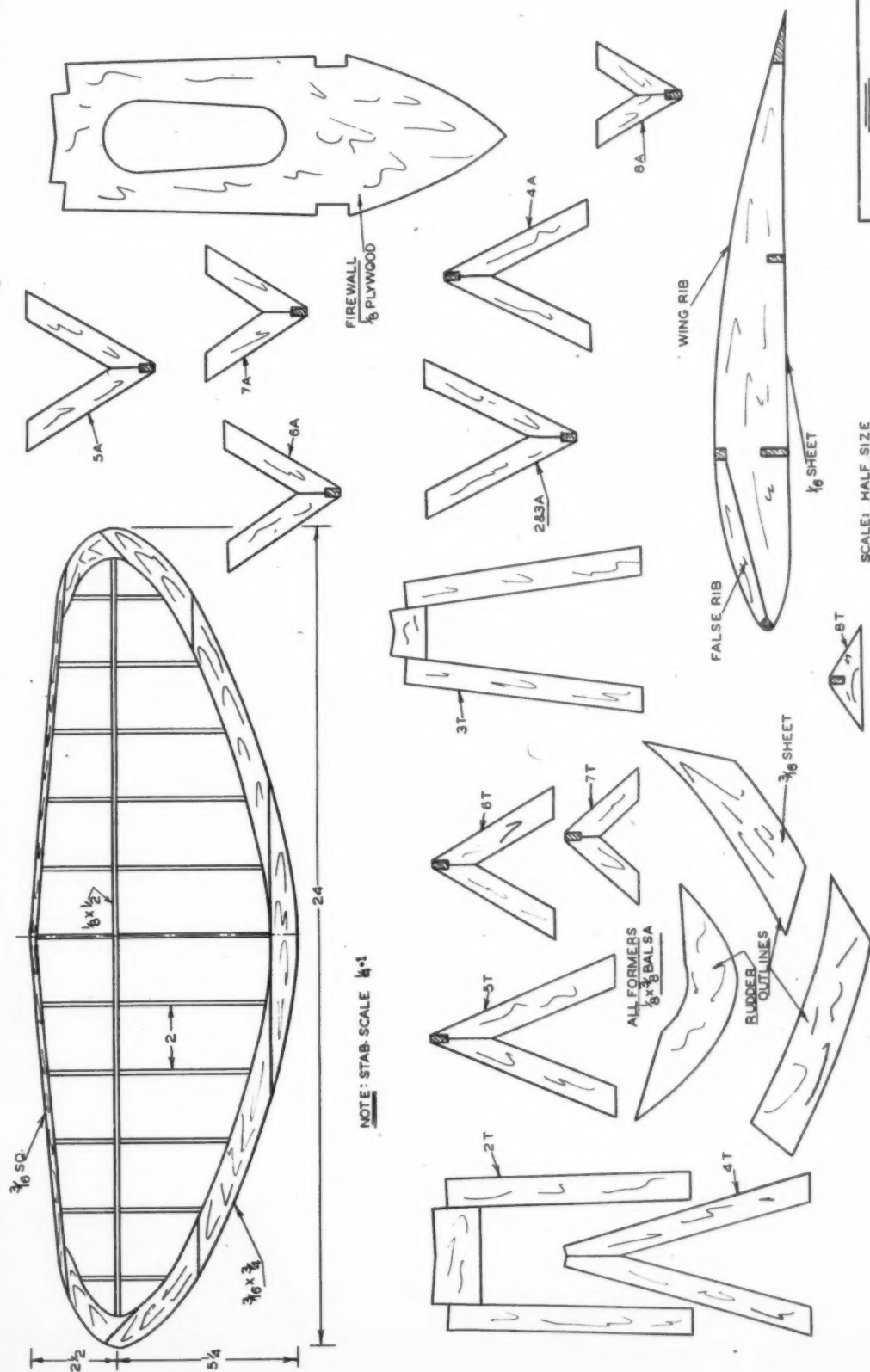


SCALE IN INCHES



THE KID

ART HORAK  
PROP SPINNERS CLUB





No. 3. H. H. Magee produced this fine Mustang which he flies control line after dolly take off



No. 2. A 3/4" scale model of the Wright Bros. biplane complete with all rigging by Myron Hilton



No. 1. Blackburn Skua flying scale job by Pat Slyne from one of Earl Stahl's

SOME months ago (June 1945 issue) we carried an editorial urging the inexperienced model builder to steer clear of rocket and jet plane experiments due to the danger involved. We still feel this to be good advice. On the other hand, we know that many of the more experienced workers have been busy on the problem of a practical model jet engine; and as we have heard of some of these that were quite successful we ask herewith that builders who have had good results with a worthwhile, safe jet write in and tell us of these results.

Since it is inevitable that such an engine will be produced by some busy modeler, we would like to review a few angles of the subject to prepare the uninitiated for what is to come.

First and foremost, of course, is the question of safety. Most builders think first of the simplicity of a rocket motor: you just take some gunpowder, jam it in a tube, add wings, and presto—a rocket job! We repeat, our advice now is the same as it was in the June issue—*don't do it*. For those who point to all the millions of successful bazooka and rocket missiles used during the war we can only emphasize that these were made and used by experts; the powder charges of every one were X-rayed (and rejected if they contained the slightest flaws) and the utmost of scientific skill was used in their production. How does the cellar shop experimenter stack up against this array?

We feel the successful model rocket motor will use a liquid fuel, preferably, not gasoline. Some experiments have shown that alcohol is quite successful, and even kerosene has been used.

While on the question of safety we cannot, of course, deny that many model makers have used a dangerous fuel—gasoline (not to mention the various potions containing ether, lighter fluid and the like)—and very few casualties have resulted. Nevertheless, we have had engines explode and fingers have been nicked by props. As in any other field of science those who know and understand

their subject and have the proper respect for the forces involved have been able to avoid troubles.

The simplest of all jet motors is the athoid which is merely an especially shaped tube with a jet to feed in fuel. Its big disadvantage is that it works only at high speed, and even in model sizes has to be travelling around 100 mph before any real thrust is produced. The athoid thus does not seem very hopeful for model use, except possibly for control line fliers.

Next in line of complication is the impulse jet engine similar to that on the Nazi V1 bombs. This looks more promising and small versions of this unit have been started in the breeze of an electric fan. Given the proper instructions and possibly a few basic parts any model builder of average experience could probably build such an engine, provided of course, that the design has been well thought out.

The turbine jet—about which so much is now heard due to its successful use in the *Atracomet*, *Shooting Star*, *Fireball*, and a growing list of sensational plane-types—is a poor bet from the modelers' standpoint. The necessary rotor turns at high speed which calls for perfect balance; besides this the use of special metals and fabricating processes puts this style of engine out of reach of any but the most skilled and best equipped experimenters.

It is possible of course to build a jet plane as the Italians did long before the war wherein an ordinary gas engine drives a blower whose output, augmented by the exhaust gas, is directed out the tail of the plane. We have never heard of this being tried in model form and it certainly doesn't sound practical for such use. As an interesting sidelight on this, however, have any of you gas model builders tried using the exhaust gas in a jet directed to the rear to get a little more thrust?—it might be worthwhile.

Well, readers, that completes our jet summary and we repeat our request for

news of successful experiments in this line. When something safe and practical turns up you may be sure it will appear here in print.

Picture No. 1 shows a Blackburn Skua built by Pat Slyne of 341 St. Clair Ave. W., Toronto, Canada. Pat tells us that the model was constructed from plans published in M.A.N. by Earl Stahl and that it is the ninth Stahl model he has made, all being very fine fliers.

No. 2 shows a real antique, the Wright biplane in 3/4" scale built from Bill Wylam's plans. This model was produced by Sgt. Myron Hilton while in the Army at Greensboro, N. Car. The Sgt. tells us "Let me congratulate you on your World War I plans. Admittedly there have been plenty of them presented in the past but there are darn few that use modern model construction. It is a pleasure to be able to build one of the oldtimers without having to draw your own." We can assure Myron and all the other World War I fans that these old models will be continued for some time to come.

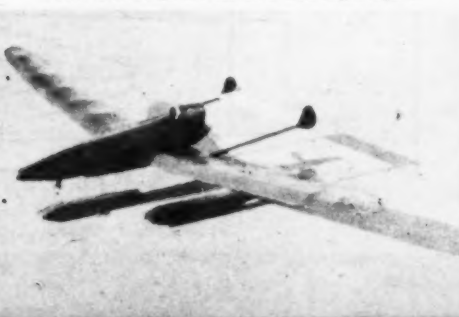
The P-51 in No. 3 was built by H. H. McGee of 3192 Spottswood, Memphis, Tenn., who gives the following details: "It is powered by a Super Cike which drives the prop with a 3-1/2" extension shaft. Its speed is very good, around 80 mph. I had some trouble at first with the P-51 on the take off when it would go into a steep climb and then roll into me, leaving me with nothing but slack lines to work with. I corrected this fault by putting more down-angle in the elevator and adding a little weight on the nose. I have the bugs out now and it is my favorite." This control liner uses a dolly for take off and is certainly a very fine appearing job.

We received No. 4 from Per Gloff, Jac. Aallsgt. 17, Oslo, Norway. It is apparent from his letter that modelers in Norway were no different from those in other oppressed countries in that they persisted in flying their models despite shortages and the disapproval of the Nazis. When rubber supplies gave out they turned to

No. 4. Here we see Per Gloff with his Zipper taken in his own country, Norway, in 1940



No. 5. This is Bobby Hoppe's 3-in-1 model with long wings for use as a free flight hydro



No. 6. Beautiful control line Tigercat with twin 60's flown successfully by Paul Schmitt





# AIR WAYS

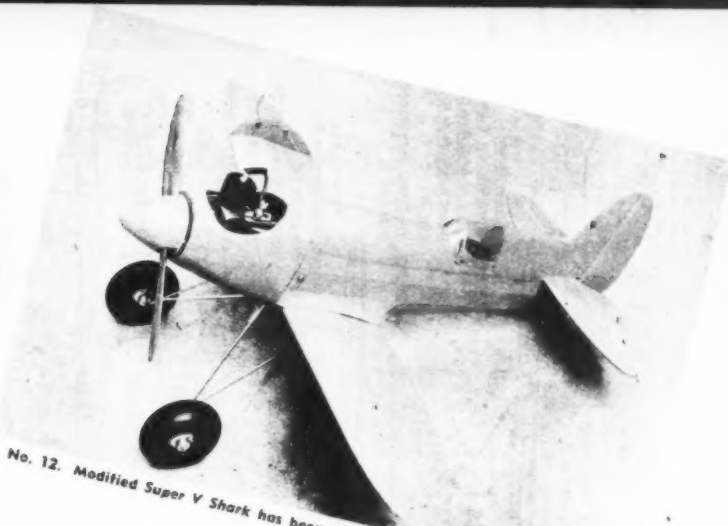
gas models, but in the winter of 1943 the battery supplies were also exhausted and the construction of model Diesel engines began. The Zipper shown in this picture was equipped with one of these engines.

No. 5 shows an original design by Bobby Hoppe of 1108 E. 13th St., Sweetwater, Tex. This model is actually a 3-in-1 job as it can be flown as a land plane, sea plane or control liner. Here it is shown as a free flight hydro. Bobby tells us that as a free flight plane it climbs at a 45° angle and has a glide ratio of 10 to 1; a little less when equipped with pontoons. As a control liner, short wings are fitted and in this condition 65 to 70 mph can be attained; but the glide is like a rock.

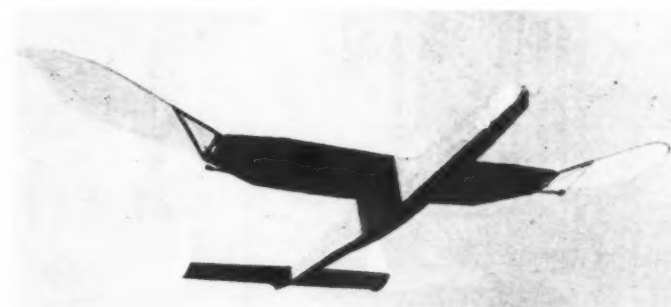
The unusual model in No. 6 is a twin engine scale model gas job of the F-7-F. The builder is Paul A. Schmitz, AMM 3/c, Box #1, Naval Air Station, Hutchinson, Kans. Paul built this to keep in practice until he gets back into civilian life and writes: "It was built in my spare time and completed in 3 months. It is powered by two Ohlsson 60 Specials and has a 36" span and length of 33". The wing is held in place by two bolts and is removable. The empennage is held on by one bolt and is also removable. No means were provided for synchronizing the motors except by sound. It has a speed of around 70 mph and flies very well on one engine after it is in the air; it makes no difference which engine cuts out." Paul says the ship is a fine job to model and has produced many flights with no accidents except broken props. This certainly is a beautiful job and we should really like to see it in action.

No. 7 shows a Mustang P-51 submitted by Cpl. William Oakes, Jr. from Buckley Field, Colo. He tells us that it has retractable landing gear, controls movable from the cockpit, and is painted all silver with a yellow tipped black prop. Although he does not say so, this appears to be a model capable of flight with a rubber motor and the correct propeller, but we don't blame him if he doesn't fly it.

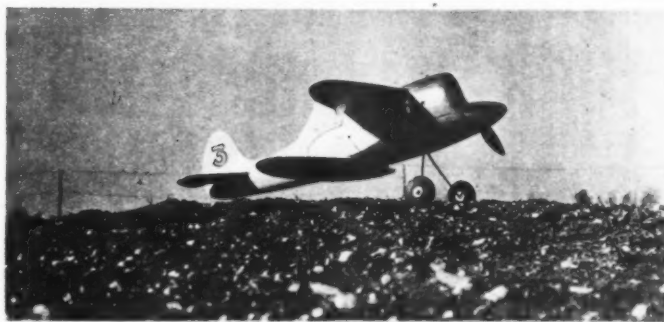
(Turn to page 68)



No. 12. Modified Super V Shark has been flown with 23 engine by H. O. Wise



No. 11. Another Flapper from which Capt. Schwartz has had much amusement



No. 10. Tether biplane built by H. DeBolt turns in 65 mph and weighs 48 oz.

No. 7. Another fine Mustang with all required details built from a kit by Cpl. W. Oates, Jr.

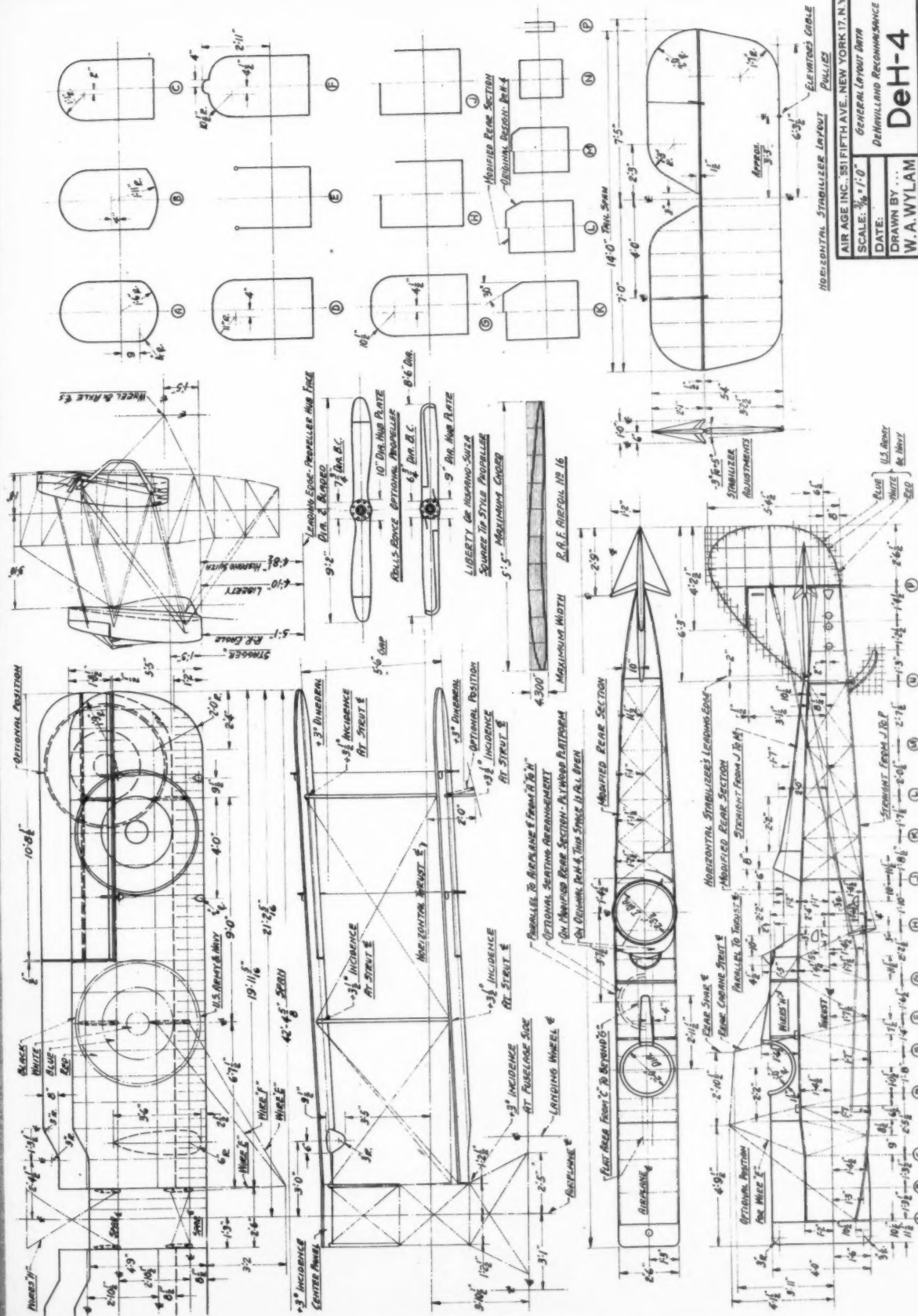
No. 8. A. L. Brown, Jr. and Lt. Murray shown with their control liner in Swiss internment camp

No. 9. Super detail Typhoon with movable controls, flaps and landing gear by R. Watson, RAF





Part 2 will be presented in the February, 1946 issue.

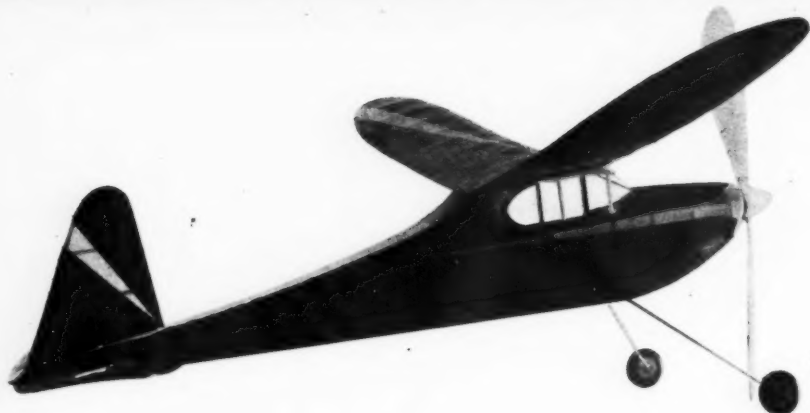


HORIZONTAL STABILIZER LAYOUT  
PULLIES  
ELECTRIC CABLE

AIR AGE INC. 351 FIFTH AVE. NEW YORK 17, N.Y.  
SCALE: 3/8" = 1'-0"  
GENERAL LAYOUT DATA  
DATE: ...  
DRAWN BY ...  
W.A. WYLYAM

DeH-4  
DEHILLAND RECOMMENCE





**A simple rubber driven cabin job  
that will give fine performance**

# THE WISP

Too many promising model builders are discouraged early because they can't make a rubber job fly. Usually they start on a so-called "flying scale" fighter plane, from which it is impossible to get any endurance anyway. Or they may get a small flying model kit which is sensationally advertised and yet, in most cases, won't fly well either because of poor design, thin wings that invariably warp, small tail surfaces that leave the model unstable, or tiny props and short motors that cut the motor run practically to nothing. We know how discouraging this can be to a beginner for we have seen it happen all too often. To remedy this situation, the Wisp was designed primarily for flying ability, second for ease of construction, and third for eye-appeal.

The outstanding flight characteristic of the Wisp is its steady, steep, turning climb. Unusually stable for so small a rubber job its flight is smooth and graceful. To attain this stability, the ample lifting stabilizer and rudder (set forward so it won't be blanketed by the stab while climbing) have a long tail moment arm. The lifting tail allows the c.g. to be farther back which in turn permits a longer motor. The short nose produces a nose-up couple, which together with the large prop and powerful motor accounts for the steep climb. With these features in mind, a simple box-type fuselage and constant-chord wing were employed to make construction as easy as possible. And to top it off we hope you'll agree that the result is a snappy, attractive little job! We aren't going to boast that it will climb two or three hundred feet and cruise half a mile because naturally so small a model couldn't possibly; but we do guarantee that if he follows the directions carefully, even a beginner can get many inspiring, consistent flights from the Wisp.

Before actually starting construction read carefully the following directions, referring constantly to the plans and skeleton photo until every detail is clear. Every effort must be made to do a careful, accurate job. Your extra effort will be rewarded by a really slick looking model with all the more flying ability.

Since the fuselage will take the most time to build, let's get that done first. It is important that you obtain some medium-soft 3/32" square balsa; do not substitute pine or harder or larger sizes, for a small model cannot carry the extra

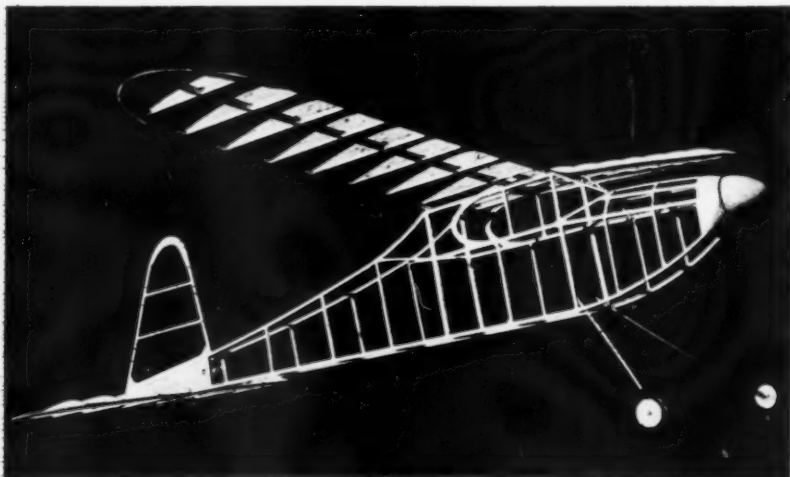
weight. Lay these longerons down, steaming the top one aft of the wing to take the curve. The bottom nose longeron from landing gear forward should be cut from scrap 3/32" sheet. For the uprights, cut the square stock down to about 3/32" x 1/16" (see skeleton photo) to reduce unnecessary weight; every little bit really adds up. Fill in the tail with 1/16" sheet, cutting out space for the stabilizer. Put in window former of 1/16" sheet. Be sure the joints are all securely glued. Take out the pins, lay down another piece of waxpaper over the first side and construct an identical second side. Let them dry thoroughly before removing.

If the sides are at all out of line the body will be weaker and the incidence on the wing wrong, so it is essential that they follow the plan exactly even if they must be cracked and reglued. Next, put in the crosspieces starting with those at the cabin and working forward and back making sure they join at right angles to the fuselage sides. The sides must bend evenly; they will if the wood is of the same strength, otherwise "help it along" until they are even. You may think it is silly to worry about so many small mistakes but the strength, beauty and flying

ability of your model depend on it! Glue the three top formers and 1/16" sq. stringers on the nose, sheet in around the front of the cabin and add the V front windshield brace. Then carve the nose-block from a soft block and drill for thrust button. The landing gear instead of being heavy wire is flexible 1/16" round bamboo running about 1/2" into the fuselage where it is well gusseted and cemented. The 1" balsa wheels are held on by a pin running along the inner side of the bamboo, then sticking into it and securely wound with thread. This extremely light landing gear setup has worked perfectly and helps substantially to keep the ship light. Finally, it's a good idea to sand the whole framework very lightly, eliminating bumps that would mar the papering.

The tail assembly is easy, but glue the joints well to prevent warping. Leading and trailing edges of the rudder are 1/16" x 1/8" balsa, the tip 1/16" sheet, braces 1/16" sq. The stabilizer leading edge is 1/16" x 1/8", trailing edge 3/16" x 1/16", tips and ribs 1/16" sheet, and top spar 1/16" sq. Only one stab rib pattern is shown so merely cut it down to fit the tip. Carefully sand both rudder and

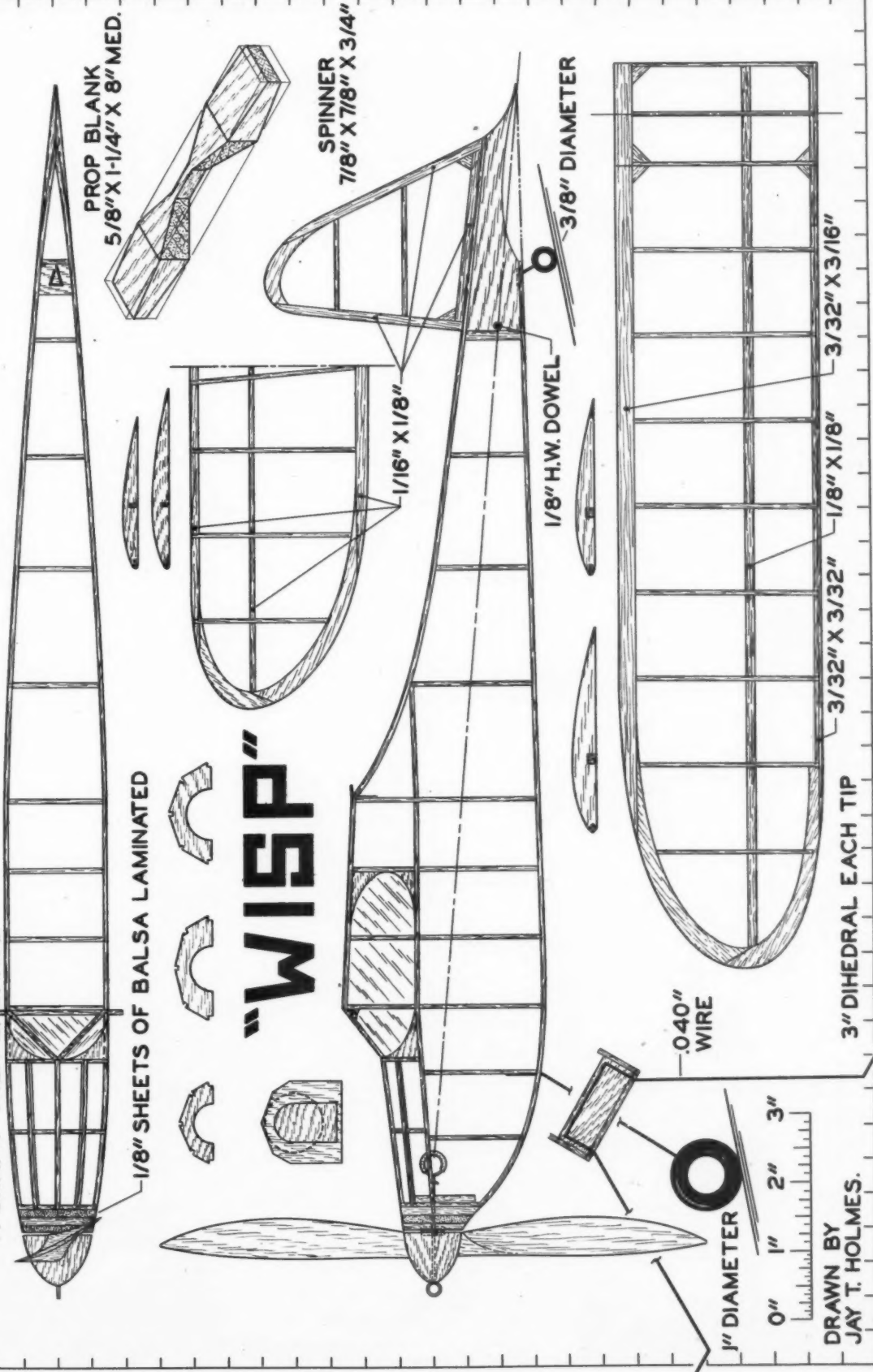
(Turn to page 52)



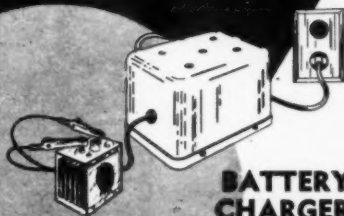


NOTE - TO DRAW FULL SIZE PLAN  
CONNECT DIGITS TO MAKE  
A GRAPH THEN ENLARGE

ALL RIBS, FORMERS, SHEETING, OUTLINES AND GUSSETS  
1/16" SHEET Balsa



## POWER-PLUS



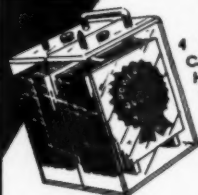
### BATTERY CHARGER

Plugs into 110-120 volt circuit to charge any Power-Plus wet cell. Automatically tapers off charge when battery comes up. Saves bother with car battery. Equipped with stout insulated cord, alligator type clips. All dural case. Will last for several years. **\$4.45**

### BOOSTER

6 Plates

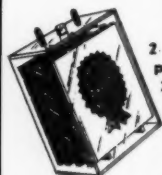
4 Volts; 2 Amp. Hrs. Capacity. Wt. 4 1/2 oz.; Ht. 2 1/4"; Wth. 1 5/16"; Thick. 1 3/16". Delivers power for hot booster spark. Also suitable for boats, race cars, Class C Planes. **\$3.95**



### FLIGHT

3 Plates

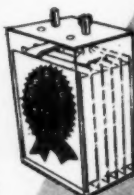
2 Volts; 2 Amp. Hrs. Capacity. Wt. 2 1/4 oz.; Ht. 2 1/4"; Wth. 1 5/16"; Thick. 1/4". Will start engine without booster. Unsuitable for gas model engine ignition. **\$2.75**



### HEAVY DUTY

5 Plates

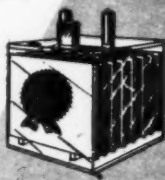
2 Volts; 3.5 Amp. Hrs. Capacity. Wt. 5 oz.; Ht. 2 1/4"; Width 1 5/16"; Thick. 1". For model race cars, Class C planes, or as booster. Lasting power in small space. **\$3.95**



### SUPER-FLIGHT

7 Plates

2 Volts; 2 Amp. Hrs. Capacity. Wt. 2 1/4 oz.; Ht. 1 1/4"; Width 1 5/16"; Thick. 1". Takes least space ever required by a model storage battery. Will start your engine without a booster. All POWER-PLUS Wet Cells have acid-proof plastic cases, vented screw caps for easy filling, 1/16" sediment space at bottom. **\$2.75**



### SPONGE RUBBER WHEELS

Aircraft-type landing wheels made of light, flexible synthetic sponge rubber, with deep parallel treads. Lathe-turned hardwood hub is deeply grooved and fitted closely so tires cannot come off in landing or take-off. Diameter 2 1/4", thickness 3/4". Pair. **\$5.00**

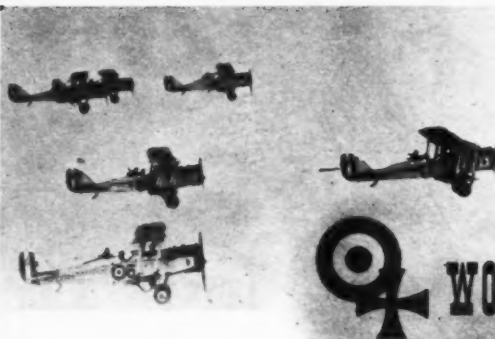
### AUTO CHARGING STAND

Charge your Power-Plus wet cells in the car without disturbing the car battery every time. Just hang the Power-Plus charging stand in your car. Made of plastic-vibration-proof will hold any Power-Plus wet cell, 5 1/2" high with socket in front for resistance bulb. **\$1.00**

### POWER-PLUS WET CELL CO.

1070 J. Brooklyn Avenue, Los Angeles 11, California  
New York Representative, S. BENDER  
455 Schenectady Avenue, Brooklyn 3, New York

by  
**ROBERT CAMPBELL**



## WORLD WAR I

### Part I of the story on the immortal "4"

### PART I

WHEN the De H.4 was produced in its original form in early 1916 it created a mild revolution in airplane design as far as performance was concerned. But that was to be expected if the performance records of De H machines prior to the "4" were reviewed.

While the present manufacturing organization descending from the World War I producers of the De H.4 carries the name of Geoffrey De Havilland in its title, the original concern was founded in 1912 by G. Holt Thomas and was called the Aircraft Manufacturing Co. Ltd. Its works at Hendon Aerodrome, just outside London, began shortly after its establishment to produce the highly successful machines designed by Capt. De Havilland, the company's engineering genius.

Shortly before the declaration of war in August 1914, Aircraft Manufacturing Co., or AIRCO as the name was contracted, produced the De H.1 pusher biplane, typical of the period but with a little better than average performance. A more powerful modification of the same design called the De H.1a was produced in the winter of 1914-1915. Both ships saw service, the De H.1a particularly on the Eastern Front and in the Mediterranean area, but neither was produced in appreciable quantities.

In the spring of 1915, and in desperation to beat the Fokker menace coming from Germany, the design was prepared on a smaller scale as a single seat fighter and produced as the De H.2. This high performance pusher single seater provided excellent visibility for the pilot and was armed with a fixed Vickers machine gun in the nacelle nose. During all of 1915 and early 1916 the De H.2 acquitted itself on the Western Front, only to be replaced by newer single seaters of the tractor type once the Allies had developed a suitable synchronizing mechanism for aircraft machine guns.

The next product of AIRCO was an enclosed fuselage type which set the general configuration of De H airplanes for the next 20 or more years. It was the De H.3, a radical biplane powered by two 130 hp engines and boasting a top speed of 95 mph. This was excellent performance for a big machine in 1915, but since the art of air warfare had not yet sufficiently advanced to take advantage of its possibilities, the De H.3 was produced only in prototype. It did form, however, the basis for the highly successful 1918 De H.10 design, about which more will be written later.

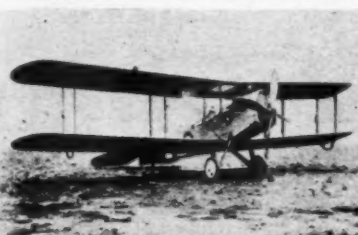
Finally, in June 1916, AIRCO mechanics at the Hendon works rolled out the prototype of the famous De H.4 biplane, which later was to be condemned and praised at the same time for its characteristics and fighting ability. The ship was big and beautiful yet ungainly in some respects. Nothing like it had been seen before because, contrasted to the Royal Aircraft Factory B.E. and R.E. biplanes—government designed ships which had set the pattern up to that time—the De H.4 appeared rugged and compact; a true battle-plane.

The ship has been described by the British Air Ministry as the first really high speed British general utility machine to be fitted with a high power stationary engine; and when it became operational in mid-1916 the De H.4 was just that. The first production models to go into service that year were fitted with the 240 hp B.H.P. engine which gave the ship a speed that was actually greater than any single seat fighter the Germans had been able to produce up to that time. Even its rate of climb and climbing speeds were about on a par with the best single seaters in the air!

These facts are particularly interesting when it is recalled that the De H.4 was designed and engineered during the fall of 1915, when the war was a year old.

(Turn to page 84)

These two photos give many details of this plane. Note the centersection window and four blade prop at left. The ships were produced with a variety of motors for many purposes.



# Authenticast Suggernauts of War

REPRODUCED IN MINIATURE

OFFICIAL scale models, restricted for use in identification and tactical training by the Army, Navy and Air Forces, are now released for civilian ownership! Cast in metal, officially perfect, amazingly detailed, these Authenticast replicas of the "juggernaut engines" of World War II now serve as visual mementos of the great conflict just won. Every serviceman or woman will be thrilled, grateful and proud to own a model associated with their wartime activity! HERE'S A SOLUTION TO YOUR GIFT PROBLEM! See your dealer today. Mail orders promptly handled.

## U.S.S. MISSOURI (HOWA CLASS)

Pattern on MacArthur's the ship of surrender.

TEACHER'S SCALE (1" to 500") Actual size 31" \$19.50  
STUDENT'S SCALE (1" to 1000") Actual size 24" \$2.50

## COLLECTORS...

Now available! Ready portable wooden display case equipped with complete TASK FORCE or CONVOY as listed:

### TASK FORCE

3 Aircraft Carriers 1 Small Tender  
2 Battleships 1 Tanker  
2 Heavy Cruisers 1 DISPLAY CASE \$33.55  
2 Destroyers 1 CASE FREE  
1 Large Tender

### CONVOY

4 Destroyers 3 Victory Ships  
1 Cruiser 3 Store (Liberty)  
1 Aux. Carrier 1 Freighter (flat)  
10 Merchant Ships 1 Freighter (tall)  
convoying all 1 DISPLAY CASE \$35.80  
1 Gorge Ship 1 CASE FREE  
1 Oiler 1 Gw Ship

## SHIPS ALL-METAL, SCALE 1 INCH TO 1200 INCHES

Battleships	\$2.85
Air-raft Carriers	3.50
Cruisers	1.00
Destroyers	2.15
Destroyer Escort	1.00
Submarines	.35
Seaplane Tender	2.15
Seaplane Carrier	.50
Seaplane Tender-It	1.10
Seaplane Tender-It	1.00
Minelayer-Heavy	.75
Minelayer-Light	2.00
Cruiser Minelayer	.75
Aux. Sweeper	1.75
Fleet Aux. Tanker	1.00
Monitor	.75
Net Layer	1.00
Corvette	.75
Sloop-Frigate	2.85
Supply Ship	1.00
Torpedo Boat	1.00
Patrol Boat	.30
"E" Boat	.30

### MERCHANT SHIPS

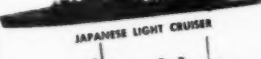
International Types  
Attack Cargo-Hospital  
Oilers-Sm. Transport  
Whalers-Lr. Transp. 2.85  
Amco-Launches (3) .25  
Barges & Dredges Set .75  
Tug Boat-out of 4 .75  
Cargo-Freighters, sm-Lib-  
erty-Shore-Tenders, 10-  
city-Shore-Tenders, 2.15  
Victory .25  
Combat Trans. 10-Freight-  
ers, large 2.75  
Ore Carrier 1.75



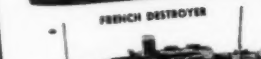
UNITED STATES ESCORT AIRCRAFT CARRIER



BRITISH SEAPLANE CARRIER



JAPANESE LIGHT CRUISER



FRENCH DESTROYER



HOSPITAL SHIP



UNITED STATES SUBMARINE (SS)



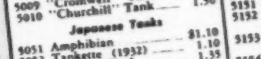
AMER M10A1, 3-inch SP Gun Tank Destroyer



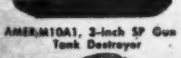
JAPANESE Medium Tank



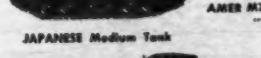
AMER M7, 105mm SP Howitzer "The Priest"



BR "Corden Lloyd" Carrier



JAPANESE Heavy Tank



BRITISH "Cromwell" Tank



BRITISH "Churchill" Infantry Tank



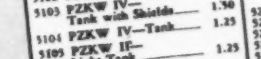
AMERICAN M18, 76mm SP Gun "Hellcat"



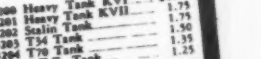
GER PZKW IV - Tank with Shields



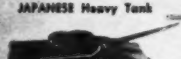
JAPANESE Tankette



GERMAN PZKW VI "Tiger" Tank



GERMAN PZKW II Light Tank



GER 8-wheeled Armored Car



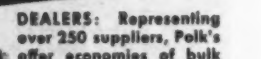
AMER M8, 75mm Infantry Supporter



GERMAN PZKW III Tank with Shields



GERMAN PZKW I Tank



GERMAN PZKW II Light Tank

Just Released!  
"Official" 1" to 108" diecast metal models. Painted olive-drab. Wheels move.  
U. S. WEASEL.....\$1.50  
U. S. AMPHIBIAN JEEP \$1.25  
U. S. WILLYS JEEP.....\$1.75  
U. S. SCOUT CAR.....\$1.50

## TANKS

SCALE 1 INCH TO 108 INCHES

British Tanks	
5000 UK Cruiser Mk V	\$1.35
5001 Infantry Mk IV	1.35
5002 Universal Carrier (Bren Gun)	1.10
5003 Armoured Car MK II (Humber)	1.35
5004 "Garden Lloyd" Carrier	1.10
5005 Infantry UK III	1.25
5006 Infantry Tank MK II	1.35
5007 UK Cruiser MK VI	1.35
5008 "Daimler" Armoured Car	1.25
5009 "Cromwell" Tank	1.35
5010 "Churchill" Tank	1.50
Japanese Tanks	
5051 Amphibian	\$1.10
5052 Tankette (1932)	1.35
5053 Medium Tank	1.25
5054 Heavy Tank	1.10
5055 Tankette (1930)	1.10
5056 Light Medium Tank (Medium)	1.35
5057 Heavy Tank	1.35
German Tanks	
5100 PZKW III Tank	\$1.35
5101 PZKW I Tank	1.10
5102 Tank Hunter MK I	1.10
5103 PZKW IV - Tank with Shields	1.50
5104 PZKW IV - Tank	1.25
5105 PZKW II - Light Tank	1.25
5106 PZKW III - Tank with Shields	1.50
American Tanks	
5107 PZKW VI - "Tiger" Tank	1.75
5108 8-Wheeled Armoured Car	1.50
5109 Light Medium Tank	1.25
5110 Panther	1.75
5111 7.5 CM "Sturmgeschutz" Carrier	1.50
5112 Armoured Trough	1.50
Russian Tanks	
5150 75mm Carrier M-3	\$1.50
5151 Heavy Tank M4-T-1	1.75
5152 M4A1 Med. Tank "Sherman"	1.50
5153 M4, 4-Wheel "Cromwell" Car	1.25
5154 M4A1, Half Track	1.35
5155 M4A1, 75mm SP Gun	1.35
5156 M7, 105mm "The Priest"	1.75
5157 M8, 75mm Infantry Support	1.35
5158 M4A1, Light Tank "Honey"	1.35
5159 M4A1, 3" SP Gun-Destroyer	1.35

DEALERS: Representing over 250 suppliers, Polk's offer economies of bulk shipping, billing, checking, at top discounts and speedy delivery! Write or wire our DEALER SERVICE BUREAU.



**POLK'S MODEL CRAFT HOBBIES**  
World's Leading Hobby House  
DEPT. MA-C1 314 FIFTH AVE., NEW YORK CITY (1)







**COMPLETE SET OF 6 CADET SOLIDS \$2.50**  
with plastic canopies, knife, dope, etc.

**CADET NEW KEEL CRAFT FLYERS; \$1.00 EA**  
Mustang—Hellcat—Thunderbolt

**MAIR CRAFT BLACK WIDOW \$3.95**

**COMET SUPER B-29 SOLID 2.50**

**TESTORS FULLY CARVED B-29 2.00**

**TESTORS FULLY CARVED B-17 1.00**

**VARNY SUPER PT BOAT 7.95**

**VARNY SUPER SUBMARINE 5.00**

**ROGERS 3/4" SCALE M-4 TANK 2.95**

**3/4" SCALE ANTI-AIRCRAFT GUN 2.95**

**3/4" SCALE ARMY WEASEL 2.95**

**XACTO CHEST—20 BLADES \$5.00**

**3 ALL METAL HANDLES \$1.00**

**XACTO PLANNER \$1.00**

**HANDEE GRINDER & ACCESSORIES 18.50**

**15" SAIL KING SAIL BOAT 2.00**

**ROCKET CLASS "C" MOTOR 22.50**

**OK SUPER "60" MOTOR 24.00**

**VIVELL "35" "C" MOTOR 18.00**

### GAS MODEL KITS

**VAGABOND "C" 74" 4.50**

**PLAYBOY SR. 70" 4.50**

**BUCCANEER "C" SPECIAL 72" 6.95**

**PACER B & C 54" 3.95**

**BROOKLYN DODGER 56" 3.95**

**ROCKETEER "A" 40" 2.95**

**SPEARHEAD JR. A & B—44" 1.95**

**P-47 CONTROLINER 5.95**

**DREAMER WITH FLIGHT CONTROL 7.50**

**G-13 BI-PLANE CONTROL LINE 7.95**

**METAL CONTROL LINE HANDLE 1.25**

**CONTROL LINE WIRE 100 FT. .65**

**POWER PLUS 2 VOLT WET CELL 2.75**

**POWER PLUS 4 VOLT WET CELL 3.50**

**POWER PLUS 2 VOLT FOR RACERS 3.50**

**CLASS "C" FLYWHEELS 1.75**

**CLASS "C" MOTOR MOUNTS .60**

**U-B-O-GEE SPEED BOAT KIT 10.00**

**AERO COILS \$2.50, 3.00**

**2 1/4" SPONGE WHEELS .30**

### TOPS IN ENDURANCE FLYERS

**LANZO 55" RECORD HOLDER & 50-FT. NON-SYNTHETIC RUBBER BOTH FOR \$2.00**

**COMET 24" SPEEDOMATICS \$1.00 EA.**  
P-47, P-51 & HELLCAT

**9" PRE-WAR RUBBER BANDS, LB. \$3.75**

## HOWARD E. RUTH

1406 GENESEE ST. BUFFALO 11, N. Y.

Dept. MA-13

POSTAGE—ORDERS UNDER \$1.00 ADD 15¢; OVER \$1.00 ADD 25¢

Specializing in dealers complete model stocks

# PLANE DRAFTING

by WILLIS L. NYE

## PART 3

**GENERAL**—The basic profile of an airfoil is derived from mathematic formulae. The performance of an airfoil is determined experimentally, and this then substantiated by tests performed in wind tunnels with the use of a scale model of a wing with an aspect ratio of six. The profile outline of an airfoil is a function of a system of ordinates and abscissae. Ordinates and abscissae are defined as the vertical and horizontal distances respectively. Ordinates are expressed in dimensions above or below the basic wing chord plane of an airfoil. Abscissae are

ically located will produce the proper airfoil for a 5" chord. Refer to Fig. 1. In order to develop an airfoil, horizontal distances from the leading edge to the trailing edge are expressed in percent of the chord, and are usually referred to as stations. The upper and lower percents of the horizontal chord lengths are given in the table of offsets. The development of symmetrical or assymetrical airfoils is basically similar.

**DERIVATION OF INTERMEDIATE WING CHORDS**—Refer to Fig. 2. This illustration shows the end view at the chord plane of a tapered wing in the profile and the plan view. The station shown at the large chord (A) is known as the basic wing root section chord. This wing chord is the basic chord from which

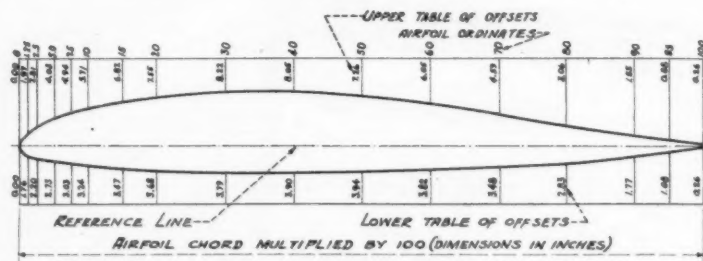


Fig. 1 How to plot the ordinates of the widely used M-6 airfoil

those positions from which the ordinates are derived, and are usually expressed in percentage of a 100" wing chord. Intermediate percentage lines are locations of the ordinates given above or below the wing chord plane.

Airfoil profiles are usually shown in terms of a 100" wing chord plane. This is done for simplicity. For example, if a 5" wing chord is used on a model airplane, all the ordinates and abscissae given in the table of offsets are multiplied by five one-hundredths. The final result when plotted through the points thus mathemat-

ically located will produce the proper airfoil for a 5" chord. Refer to Fig. 1. In order to develop an airfoil, horizontal distances from the leading edge to the trailing edge are expressed in percent of the chord, and are usually referred to as stations. The upper and lower percents of the horizontal chord lengths are given in the table of offsets. The development of symmetrical or assymetrical airfoils is basically similar.

Refer to Fig. 3. Here the wing root (Turn to page 82)

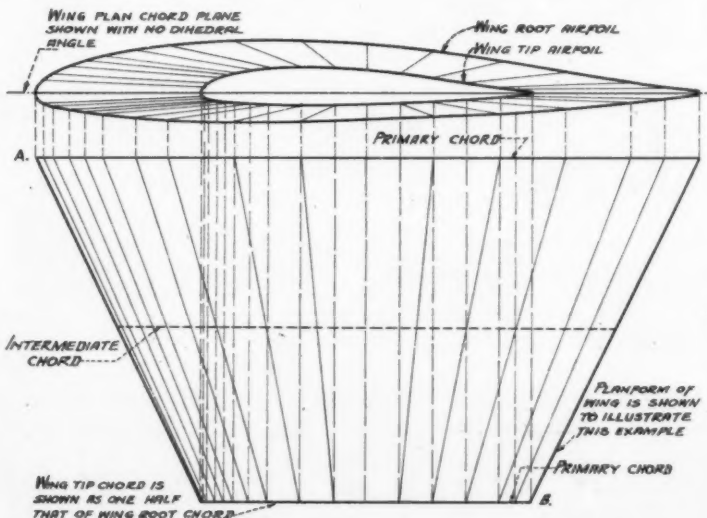


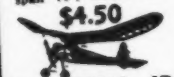
Fig. 2 Projections of wing root station line system on root chord



## Prize Winners!

### PLAYBOY, SR.

A class "C" ship, wing-span 17", length 42".



### PLAYBOY, JR.

A Class "B" ship, wing-span 14", length 31 1/4".

\$4.50

\$2.50

## AMERICAN ACE "54"

Designed by a National Champion. Official AMA Record Holder. Complete kit.

54" Wingspan \$3.95



## AMERICAN ACE "36"

Kit includes complete plans and all necessary parts for building. For Atom and EH engines.

36" Wingspan \$1.50



## The TOPPING "100"

Made of pre-formed aluminum, fully fabricated, just install your power plant, snap together and fly.

Class B or C \$10.00

## Megaw Kite

### PIPER CUB

Wingspan 55 1/2". Average weight 25 oz.



### WOG

Wingspan 60". All brass kit.

\$4.95

## DREAMER

A new Kit with many new features, one of which is the "Flight Controller" which makes her fly through the air with the greatest of ease. Has a 19" span. Kit contains complete parts, building and flying instructions.



\$7.50

## AMERICA'S SWEETHEARTS

### MISS BEHAVE

A great control line model for class A, B, or C motors.

\$3.95

And there's also

BABY MISBEHAVE \$2.95

## NEW MOTORS

### MODEL AIRCRAFT BRINGS YOU A CHOICE OF THE BEST

## The ROCKET

.48 cubic inch displacement. A patented Rotor Intake Valve makes it a quick starter and a good performer.

\$22.50

postpaid CLASS C

## VIVELL 35

.35 cubic inch displacement. Rotary Valve, adjustable flow points and many other features make it a great motor.

\$18.25

postpaid CLASS C

## HURRICANE

.24 cubic inch displacement. Unconditionally guaranteed. Complete with coil and condenser.

\$24.95

postpaid CLASS B

## OK SUPER 60

.604 cubic inch displacement. The many features of "OK" will never let you down... you'll stay in the winner's circle.

\$24.00

postpaid CLASS C

## The New CANNON

.299 cubic inch displacement. Greater power, speed, durability, make it an amazing performer.

\$16.50

Postpaid CLASS B

## U. S. ARMY PARACHUTES

Protect your plane with silk.

COMPLETE \$15.50

Cover your plane with silk... its strength and durability will give you 10 times the life of your present covering. Each section is in one piece. Complete photo contains over 18 square yards.

SEPARATE SECTION \$1.40 Ea.

## A THRILLING WHIP-POWER AIRACOBRA

This Airacobra actually banks, loops, dives, climbs in response to your control.

\$1.25

## FREE FLIGHT — GAS

Coronet A or B.....\$2.80

Playboy Jr. B.....2.80

Jersey Javelin A.....2.80

or B.....2.80

Pacer C.....4.95

Ranger A or B.....2.80

Assign A or B.....2.80

Varsity B.....4.95

Playboy Jr. B.....2.80

Modernair B or C.....2.80

57.....2.80

Piper Cub.....1.50

Strato-Spacer.....2.80

Custom Cavalier C.....15.00

Super Buccaneer C.....2.80

Buccaneer C Special \$4.95

B'lynn Dodger.....2.80

Pacer B, Buccaneer B, Special.....2.80

Somble A or B.....2.80

Aero Champ A.....2.80

Super Yogi.....2.80

Wog.....4.95

Musketier 42.....2.80

Topper A.....2.80

Ranger.....2.80

Jiffy A.....1.50

Musketier Stand's C.....4.95

## U-CONTROL MODELS

Tiger Shark.....\$4.95

Super Shark.....4.95

Baby Shark.....2.85

Sling Ray.....2.85

Thunderbolt.....5.95

Tether Sharpe.....1.00

Strato-Cat.....\$5.95

Strato-Kitten.....2.95

Tarpon.....16.75

Tether Streak.....16.80

Yee-Gee.....12.50

Ercoupe.....12.50

## GAS MODEL SUPPLIES

Condensers......15

Metal Case Cond......45

Alligator Clips......12

Motor Mounts......35

Alum......35

Austin Timer......1.50

Aero Spark Coll.....\$2.50

Ignition Wire......35

High Ten, Leads......15

Motor Mts. Steel......25

Silk Span Cover'g......10

1.50

## COMPLETE DRAWING OUTFIT

Genuine Dietzgen Drawing Board, size 18 x 24", T-square, celluloid angles, curves, protractor, pencils, erasers, ink, paper and triangular scale. 2 how Charvos instrument not included.

\$16.55

## "CHARVOS" DRAWING INSTRUMENTS

No. 814, complete.....\$18.00

No. 812, complete.....\$10.80

Set No. 814N, same number of instruments.....\$15.00

as No. 814, except quality same as No. 812.....\$15.00

## DRAWING BOARDS

Boards are made of clear pine, tongue and grooved for rigidity and strength.

12 x 17.....\$1.00

18 x 24.....\$2.00

18 x 21.....1.50

30 x 36.....2.50

25 x 31.....3.50

## GENERAL SHERMAN M-4 TANK

Ready shaped parts... scale 1/32" to foot.

\$2.00

## ROGERS NEW "WEASEL" \$2.95

The famous craft that spear-headed invasions. All machined parts.

## LEDDY AMPHIBIAN JEEP

Spectacular military vehicle of the war. Perfectly detailed kit.

\$2.50

## ROGERS 4MM ANTI-AIRCRAFT GUN

Gun elevates, moves and swivels. An amazingly accurate model.

\$2.95

## MINIATURES

### for the COLLECTOR!

### NEW AUTHENTIC SCALE MINIATURE MODELS OF

### Ships . Tanks . Planes

There's no make-believe about these miniatures... they are exact as to scale and minute detail. The experienced collector will find them a welcome addition... the new collector will find them to be a good beginning. Space does not permit the listing of all models. Write for complete list that includes all the fighting nations.

## BATTLESHIPS

All metal construction. Scale 1 inch to 110 feet.

Battleships \$2.85 ea. Missouri (Iowa Class)

Idaho \$2.85 ea.

No. Carolina \$2.85 ea.

So. Dakota \$2.85 ea.

Tennessee \$2.85 ea.

Gelemau \$2.85 ea.

Aircraft Carriers \$2.85 ea.

Bombardier \$2.85 ea.

Exeter \$2.85 ea.

Yorktown \$2.85 ea.

Furious \$2.85 ea.

Bristol \$2.85 ea.

Ranger \$2.85 ea.

Farragut \$2.85 ea.

## TANKS

All models feature revolving turrets and many have movable wheels. Scale 1 inch to 9 feet.

5150 75 mm. Carrier \$1.50

5151 Heavy Tank M6T1 1.75

5152 Med. Tank M4A3 1.50

5153 Lt. Arm. Car. M3 1.50

5154 Half Track M3A1 1.50

5155 75 mm. Gun Car. 1.35

5156 105 mm. How. Car. 1.75

5157 75 mm. How. Car. 1.35

5158 Lt. Tank M3A1 1.35

5159 3" Gun Car. M10 1.35

## PLANES

Solid plastic models... complete in every detail. 1/72 scale.

B26 Marauder.....\$4.00

B17 Flying Fortress.....3.50

L5 Vulture.....3.25

4PU Corsair.....2.00

P39 Airacobra.....1.50

P40 Warhawk.....1.50

P51 Mustang.....1.50

P38 Lightning.....2.00

Here it is... the "Authentic" catalog for collectors. 32 colorful action packed pages showing the models in battle scenes. Photographs and official data of ships, tanks and planes of all nations.

## CHAMPION

SPARK PLUGS V-2 V-3

50c Each

Add 10% postage to the above prices except where specified otherwise. We cannot ship COD's and our minimum order is \$1.00. Send check or money order for full amount of order.

# MODEL AIRCRAFT CO.

BEST SOURCE OF SUPPLY FOR THE MODELER

418 N. CHARLES ST.

BALTIMORE 1, MD.

# Randles

## HISTORICAL MODELS

### You'll Like to Build

# SOLID MODELS MADE OF BALSA

*De Luxe Series.* are large size—just the proper size for the mantel or display shelf. All fuselages are shaped, wings outline cut, all parts not shaped or outline cut are printed directly onto the Balsa. The plans are complete in all details—RANDES HISTORICAL SOLIDS are easy to build.

#### B-29 SUPER FORTRESS



NO. 189-D. A complete kit. True scale of 1 inch equating 10 feet, a wing span of nearly 15 inches. **\$1.25**

#### SIKORSKY HELICOPTER



NO. 185-D. Complete. Makes big 14 inch model First Army and Navy Helicopter. **\$1.25**

#### CESSNA BOBCAT



NO. 187-D. True scale, 12 1/4 inch wing span. Famous Fortress Pilot Trainer. **\$1.25**



#### LOCKHEED CONSTELLATION



NO. 181-D. The First, Fastest Long-range, land-based airplane in world. **\$1.25**  
Approx. 16 inch wing span

#### THE HILLES-COPTER



NO. 184-D. First Co-axial Helicopter invented by 19 year old boy. Complete. **\$1.25**

#### FAIRCHILD PACKET



NO. 115-D. The Famous Flying Box Car. No other model like it. Approx. 11 inch wing span **\$1.25**

#### KELLEY AUTO GYRO



NO. 183-D. First Auto Gyro used by Army and Navy. Complete. **\$1.25**  
Approx. 14 in. size

#### BOEING STRATOBUSS



12 inch wing span  
NO. 186-D. A Huge, fast transport for the War and after the war. No lumber of the B-29. Complete **\$1.25**

## Ask Your Dealer

IF YOUR DEALER DOES NOT HAVE RANDES HISTORICAL MODELS ask him to get them for you, or add 15c postage and send your order direct.

DEALERS: ASK YOUR JOBBER TODAY.

# Randles

## MANUFACTURING Co.

17 WEST 5TH AVE., HUTCHINSON, KANSAS.

Here's a practical gift  
for Dad, Brother,  
or for your Den!

A BEAUTIFUL AIRPLANE  
ASHTRAY... \$10.00

A gift that will be appreciated by  
every lover of airplanes!

## BROOKLYN'S HOBBY CENTER

... has a truly wonderful selection  
of everything available in the field  
of hobbies—Kits, for building Air-  
planes, Boats, Railroads, Military  
Vehicles — Books — Accessories —  
Balsa wood — Dope — Cement —  
Fittings

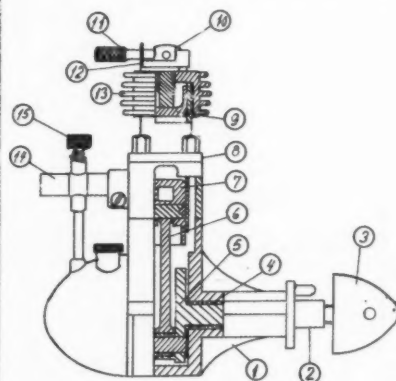


Mustang plane has celluloid cockpit enclosure,  
with miniature pilot at controls. Plane and stand  
chrome plated. Removable glass tray.

## ABRAHAM & STRAUS

FULTON ST. at 107 ST.

Brooklyn



(Half-scale)  
ROGSTADIUS DIESEL  
1/10 hp—7500 rpm

1. crankcase
2. propeller hub
3. spinner
4. bushing
5. crank shaft
6. connecting rod
7. piston
8. cylinder
9. compression regulating piston
10. compression regulating screw
11. compression regulating lever
12. spring
13. cylinder head
14. carburetor
15. needle valve

(Turn to page 40)

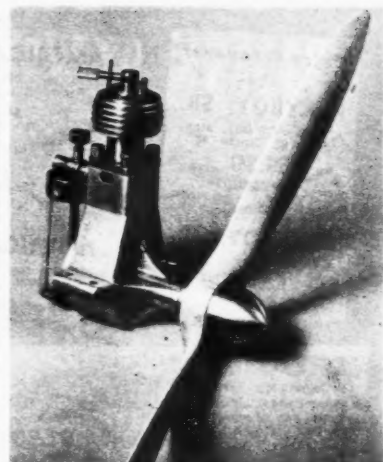
## A GAS MOTOR WITHOUT "ELECTRICKERY"

by Per Weishaupt

DURING the war a very important development took place in European model motors. The ordinary gasoline powered motors with spark plug, coil, battery and so on were left behind in this development.

European modellists now use Diesel engines, although Diesel is not quite the proper term. By a Diesel we mean a motor that has its fuel injected by a pump into the highly compressed air in the combustion chamber, where the temperature is so high that the mixture is ignited.

You will at once ask: "How are the tiny



Danish "Micro-Diesel" of 1/10 hp weighs 7.1 oz.

**Even Santa Can't Get These Models — They're Available Thru Associated Only!**

**BUILDERS, IF YOUR DEALER CAN'T SUPPLY YOU, ORDER DIRECT**



### STAGECOACH AND COVERED WAGON KITS

Bring back the rip-snootin' days of blazin' six guns with these colorful vehicles of the old West! All parts die-cut and precision-shaped. No carving necessary. Complete plans included. \$1.50 each plus 15c parcel post.

**FAMOUS SHIP MODEL KITS:** Santa Maria, Pinta, Nina, Frigate, Constitution, Viking, Bluenose Schooner (illus. above), Clipper. \$1.50 each plus 15c parcel post.

### MARTIN MARS

Here's a streamlined all-balsa beauty that belongs in every builder's collection! All parts pre-cut. Complete with printed templates and easy-to-follow instructions. (And here's a tip, Mr. Dealer—This one'll be found under many a Xmas tree.) **\$3.50** plus 25c parcel post.

### CAVACRAFT P-51 MUSTANG

The newest member of our famous Cavacraft family. This outstanding kit comes complete with plastic propeller, wooden wheels, ready-formed landing gear, glue and U.S. Army Insignia. Complete plans, featuring nine excellent photographs and an exploded view, are included. **50c** plus 10c parcel post.

### PBM MARINER

A handsome replica of our Navy's giant PBM Patrol Bomber. All balsa kit. 18" wingspan. Cut to outline parts; printed templates; wood filler. Cast props. Complete with detailed plans for easy assembling. **\$2.50** plus 20c parcel post.

### MAYO CLASS DESTROYER

Scale model kit includes 12" pre-carved hull, plans and everything necessary to build this handsome model. **60c** plus 15c parcel post.

### 4-STACK DESTROYER

Scale model kit of one of America's most famous class destroyers. 14" pre-carved redwood hull. Makes a beautiful model. **\$1.50** plus 30c parcel post.

### P-80 SHOOTING STAR

An outstanding solid model kit that easily assembles into the exact likeness of the famous jet-propelled P-80. Every part pre-cut from finest quality balsa. Kit complete with material for fuel tanks, printed templates and easy-to-follow instructions. Ask your dealer for it today! **75c** plus 10c parcel post.

### SULLIVAN WIRE AND REEL

Fine steel wire. Ready wound. Unwinds smoothly. 100 ft., **65c**, plus 15c parcel post. Control Handle **10c**.

### BULLDOZER

A super solid kit, with pre-shaped parts, ready to assemble and finish. Thrilling detail. Accurate scale. **\$1.25** plus 10c parcel post.

### CAVACRAFT P-38

Precision scale swing control Lockheed P-38 Lightning. Ready-to-fly, completely finished and painted. Does all kinds of stunts at terrific speeds! Can be flown in formations. **\$1.75** plus 15c parcel post.

### CAVACRAFT P-40

Precision scale swing control Curtiss P-40 Warhawk. Completely finished and painted . . . ready-to-fly kit. A super thriller for speed and maneuverability! **\$1.75** plus 15c parcel post. **CAVAKIT:** Same swing control plane in kit form for those who like to build their own. All parts fully shaped and sanded. **\$1.00** postpaid.

### COMBO NAZI AND BAKA BOMB KIT

Near-perfect models of those two once-dreaded enemy weapons can easily be made from this swell kit. Both realistic models are pre-cut and pre-shaped from Grade A balsa. Kit contains lathe-turned parts for desk stands. Both models complete in one kit for **60c** plus 10c parcel post. German Robot Bomb Kit sold separately for **40c**, plus 10c parcel post.

**DEALERS! JOBBERS! ORDER NOW! 24-HR. SHIPPING SERVICE!**

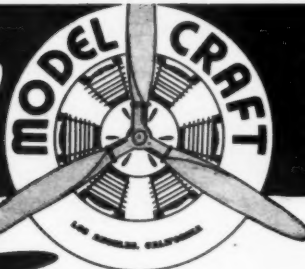
B. PAUL, Exclusive Distributors for

**ASSOCIATED MODEL MANUFACTURERS**

DEPT. MA-1, 5 NORTH SIXTH ST., PHILADELPHIA 6, PA.



# Now Ready!



## FAMOUS FAVORITES



**THE GREMLIN**

Those who've spent the 20-30 minutes it takes to put the Gremlin together claim it's one of the sweetest gliding jobs they've ever built. Parts are die cut from balsa and finished to easy sanding distance. Pull also plans come in the kit to help you make replacement parts if needed later on. Complete kit.

**VEE-GEE**



The U-control speedster that puts you right up in the 100 M.P.H. class! Vee-Gee is a deluxe kit, with all parts precision cut, finished down to sanding distance, and spar beveled to shape. "Exploded" diagram and complete plans make assembly very easy. Included are plans for a take-off dolly. (Patented under Jim Walker's U-control patent No. 23694161). \$10.00

**25¢**  
PLUS POSTAGE

### RUBBER THREAD

New synthetic rubber thread with plenty of life and stretch. We can make immediate shipment to jobbers and dealers. **1/2¢ ft.**



**KAYDET**

Here's an all-balsa stick model that you can put together in 30 minutes. Kit comes complete with slotted canna, grooved top, and rubber. All parts are cut out and there are only 5 joints to glue. Builds up into a beautiful flyer. **25¢**  
PLUS POSTAGE



**MISS TINY**

A strictly aviator-type job that's a proven Class C champion and a favorite in every part of the country for free-flight contest performance. On it you reduce the wingspan to 10 inches. Miss Tiny becomes the sweetest U-control trainer you could get. Use any power within .30 to .45 cc. in. range. All balsa standard kit. **\$3.25**

# Modelcraft

THE LARGEST SUPPLY HOUSE IN THE WEST

11921 SOUTH WESTERN AVE.

LOS ANGELES 44, CALIF.



THE SPECTACULAR  
P-80 "SHOOTING STAR"

## Introducing

### The METALMASTER P-80 KIT FEATURES

Plastic canopy



Plastic pilot and cockpit interior.



Wing tip tanks



Complete decals



Plus plans, instructions, photos, abrasive paper and colored dope.

A new idea in scale model airplane building. Metalmaster kits enable even the beginner to make perfect scale reproductions of world famous airplanes—in Metal. They are equally attractive to the expert since they have set new high standards in authenticity and detail. Metalmaster makes it possible to produce in a few hours an exact scale Miniature in Metal.

SEE YOUR DEALER  
OR ORDER DIRECT

enclosing 25c for  
packing and postage



**\$3.75**

GILMOUR ENGINEERING COMPANY

pumps and the injection jets made? These must be very difficult to manufacture?" Well, you are right. How is this difficulty overcome? The answer is simple; there is no pump, there are no injection jets. The motor works as an ordinary 2-stroke job with a mixing valve. The compression ratio is high, about 14:1, and is variable. Variation is accomplished by using a piston situated at top of the cylinder. By means of a screw, turned by a lever in the top of the cylinder, this piston is moved slightly up or down, thus altering the compression volume. When starting up the motor a high compression ratio is used. When the motor is running, the compression ratio is regulated towards lower compression.

The inventor of this motor, E. Thalheim of Lausanne, Switzerland, is a machinist. He had his invention patented in 1927 and called it the *Dyno I*, which is the prototype of the Scandinavian motor shown. This motor will not run with just any type of fuel. The following mixture is recommended: 24% turpentine, 24% petroleum, 24% paraffine-oil, 13% ether and 15% motor-oil. For the Danish Mikro the following fuel is recommended: 25% oil, 40% ether and 35% petroleum.

Due to the high compression ratio and the resulting high combustion pressure, the motor itself is a bit heavier than the usual spark plug motor. However, as there is no battery, coil, condenser, spark plug and wiring, the total weight is less. Since it is much simpler it will, according to European experts, supersede the old types very shortly. Some have said that the self-ignition motor has a shorter life; since it is still in the experimental stage and because of the higher stresses this

(Turn to page 42)







KNOW  
-IT-ALL  
WITH THESE

4

SHOW  
-IT-ALL  
BOOKS

OVER

800

ILLUSTRATIONS

226 PAGES

POST  
PAID  
ANY  
POINT  
IN  
U.S.A.  
\$1.00

For the Beginner—A Complete Course in Model Building. For the Initiated—Secrets of a Prize Winning Modeler. Ingenious shortcuts, new approaches to old problems, practical modelling helps. All illustrated. How to test glide your plane. How to handle your plane in power flight. Every aspect of model construction in these 4 books. Keep them for reference. They'll answer every question you want to ask.

PAUL  
GUILLow  
WAKEFIELD,  
MASS.

#### How to Understand and Use FLYING MODEL AIRPLANE PLANS

Basic stuff for the beginner. Learn how to translate the kit plan into a finished plane! Building, covering, assembling! Fuselage, wings, struts, rudder, tail surfaces, etc.

#### FLYING MODELS

##### How to Build and Fly Them

The flying model from blueprint to actual flight with comprehensive coverage of all in-between ground! 'Initiates' the beginner, provides the advanced modeller with ingenious new tricks and short cuts. Pictures galore!

#### TOM'S BOOK OF FLYING MODELS

A best seller! Crammed full of detailed instructions on building flying models. Includes short cut methods for constructing fuselage, wing frames, covering, etc.

#### BUILDING AN AIRPLANE—"JUST FOLLOW THE PICTURES"

A bonanza of facts on every aspect of building. How to build more quickly, more efficiently. Hints on covering, assembling, struts and props, motor installation, etc. Illustrated every step of the way. JUST FOLLOW THE PICTURES!



may be so at present. However, this particular Mikro has run 30 hours and is still going strong.

The self-ignition motors cannot be made by amateurs. Very accurate workmanship and first class tools are necessary since tolerances are very small.

Of the motors available, the *Forastudius* has been described in detail in the Swedish book, "Hobbyboken 1944" and differs very little from the *Dyno*. The *Mikro* is also similar. It features a fuel tank which may easily be turned so that the motor can be used inverted. The *Diesella*, also Danish, is the most powerful, developing 1/6 hp. It has a nice shape and is light.

The C.P. Diesel built by Carlo Pinotti, an Italian musician in Sweden, has the whole top mounted as compression-regulator in order to distribute the stresses.

In Switzerland and in Scandinavia it has been learned that German modelists also began to use Diesels during the war. Motors less than half the volume of the *Dyno* were built. What about Diesel-powered indoor models?

#### TABLE OF SELF-IGNITION MOTORS (DIESELS)

Name	Dyno	1	Rogstadius	Diesella	Mikro
Nationality	Swiss	Swedish	Danish	Danish	
Horse Power	1/8-1/10	1/10	1/8	1/10	1/10
R. P. M.	6000-7500	7500	4500	7500	
Displacement					
Cable inches	0.125"	0.125"	0.160"	0.124"	
Bore	0.324"	0.324"	0.339"	0.324"	
Stroke	0.457"	0.457"	0.457"	0.445"	
Weight	5.2-7.1 oz.	7.1 oz.	5.97 oz.	7.1 oz.	

Pinotti (Swedish): 6000-7500 R.P.M.  
0.132" cu. in. displacement

## Power Dive Preventer

by Don Vail

DID you ever stand on a fine sunny day out in some field and watch your gas model, representing anywhere from two weeks to six months work, roar down out of the blue and smash itself to pieces?

Well, if you have, you need never witness this scene again. At least, not if you go to the slight additional trouble and expense of installing the instrument in your plane which is described here.

This instrument is a mercoird switch. It consists of a small enclosed glass vial with two electrodes projecting from one end whose inner extremities extend for a short distance inside the vial. The tube is partially filled with mercury which serves as a conductor between the two electrodes when it touches both at once. The tube is set at an angle in the body of a plane so that the mercury touches the two electrodes when the fuselage is horizontal or inclined at an upward angle, but it doesn't touch them when the plane's nose points toward the ground on an angle. The two leads of the switch are simply connected in the ignition circuit as would be an ordinary cut-off switch.

While flying level or climbing, the plane will have a steady ignition, but if it should at any time dip its nose towards the ground at more than a very slight downward angle (determined by position of vial) or go into a dive, the ignition will immediately be cut, as the mercury will flow to the other end of the tube and there will be no connection between the two terminals. Thus the engine will instantly die and your plane will pull out and glide in with little or no damage.

This switch requires no special skill for installing and is light in weight. It may be obtained at many large hardware stores, and is also used to turn off trunk lights of some cars including the Ford. This precaution is well worth the money when compared to the price of five or ten dollars for a new plane. Try it and see.

## • YOU can build this famous U.S. NAVY MODEL LANDING CRAFT!



KRESGE'S  
HOBBY CENTER

is your source for Hobbcraft!

YOU'LL find a wide variety of all types and scales in model Airplane, Railroad, Boats, Ships, and Military Vehicle Kits.

Shop with us for your next hobby need or gift idea!

HERE'S a fascinating project! Kit includes mechanism for raising and lowering ramp! Parts are pre-fabricated wood, metal and plastic. Pre-formed gun turrets, steering wheel, buttresses, hardware.

Complete Kit  
\$1.50

HOBBY CENTER  
2nd Floor

NEWARK

kresge  
DEPARTMENT STORE NEWARK



## Red-I-MADE GAS MODELS with ENGINES Installed

### MEGOW Ranger with OHLSSON "23"

Complete Ready to Fly

Body of wings silk covered, doped and beautifully decorated. Includes: Sponge rubber wheels, timer, wiring, battery, etc. Ship has been flown, tested and adjusted—A Contest \$62.50 Winner with an amazing climb!

### COMET SAILPLANE with OHLSSON Custom "60"

Complete Ready to Fly

Wings and body silk covered, artistically decorated and doped. Includes: M&M air wheels, special swiveling motor mounts, wiring, natural finished balsa planking, etc. Ship has been flown, tested and adjusted—has long flat glide.

A DeLUXE JOB! \$85.00

Other Ready-Built Gas Models with and without engines

Red-I-Made gas models without engines from \$20.00 up

Scale models from \$45.00 up  
Thunderbolt, Sikorsky, etc.

### Mathews HORNET RACE CAR

Complete with Hornet engine, wired \$90.00 and clocked at 75 mph in test run.

Ideal CHRISTMAS Gifts  
Immediate Shipment  
Packing and Postage, \$5.00

#### SOLIDS

FALCON 'A' SERIES—\$2c each  
Wildcat, Mustang, Zero, Thunderbolt, Avenger, Bell Airacobra, Stuka, Lockheed P38, Curtiss P40, Spitfire, Mosquito, Messerschmitt, Hellcat, Corsair, Black Widow, Piper Cub, Taylorcraft, Aerona Sea Plane

FALCON GIANT SOLIDS—Series B—\$1.00 each  
Mustang, Curtiss P40F, Bell Airacobra, Doolittle's Mustang, Wildcat, Thunderbolt, Spitfire, Flying Fort.

TESTOR-B17 Flying Fortress.....\$1.00  
TESTOR-B29 Super Fortress.....2.00  
TESTOR-B32 Super Fort.....1.00  
COMET-B29 Super Fort.....2.50

FALCON: SUPER DETAILED SCENES—\$1.50 each  
Lockheed P38, Douglas A20, Boeing B17, Consolidated B24, Lockheed Hudson, Martin B26, N. Amer. Mitchell

CONSOLIDATED RED-CARVED FUSELAGE  
Flying Fortress 28" 97.50 Lightning P-38.....2.50  
Kingfisher Float.....6.50 Grumman Avenger.....2.00  
Liberator B24.....6.50 Mosquito.....4.00  
Wildcat, Curtiss P40, Mustang, Airacobra, Spitfire.....\$2.50 each. Add 25c postage

Consolidated Super Miniatures with red-carved fuselage  
B17 span 12 1/4".....\$1.50 Grumman Hellcat.....1.25  
B17 span 12".....2.50 Jap Zero.....1.25  
Thunderbolt.....1.25 Focke Wolf 190.....1.25  
N. Am. P51.....1.25 Hawker Typhoon.....1.25

CAVACRAFT P40 or P38—\$1.75 each  
Add 10c postage  
CAVACRAFT P40 B17—90c Add 10c postage  
CADET—B17.....\$1.00 Add 15c postage

CADET—Famous Fighters 25c each  
Thunderbolt, Hellcat, Focke-Wulf, Typhoon, Spitfire, Mustang. Add 10c postage  
Jim Walter's Whirl Power G-Control—\$1.25

RAY SOLIDS—\$1.00 each  
Hellcat, P40, Typhoon, Thunderbolt, Mustang, Spitfire  
Rance Kallert Auto Giro, Sikorsky AAF B4 Helicopter, \$1.75; Miller-Copter, \$1.75. Add 25c postage

STROMBECK-BECKER READY SHAPED PARTS  
Curtiss P40E.....\$2.25 Martin B26.....\$2.50  
Curtiss B26.....1.50 Douglas A20.....\$3.00  
Add 10c postage Add 15c postage  
Flying Fortress.....\$1.00 Add 25c postage  
Consolidated B24D.....1.00

MAINCRAFTS SOLIDS—\$1.25 each  
Lockheed P38, N. Am. B25, Douglas A20, Havoc, De Havilland Mosquito Add 15c postage  
COMET—Air-O-Trainer.....\$1.50  
B-29 Super Fortress.....2.50 Add 25c postage

#### GAS KITS—FREE FLIGHT



American Ave B-C	\$ 3.95	Zumbie A-B	1.95
Megow's Piper Cub	5.95	Jersey-Javelin A-B	2.95
Mercury C	5.50	Brigadier B	2.95
Pacer C	4.95	Boomer A-B	2.95
Woe (Heli)	4.95	Vagabond "C"	9.50
Strut-up, etc	2.95	Topper A-B	3.50
Brigadier B	2.95	Westwind B	3.85
Ensign B	3.50	Veggie B	3.95
Super Buccaneer C	6.50	Buccannan C Spl.	4.95
Aero Champ	2.00	Minikrewe B	1.50
Cavalier	15.00	Larkies B	3.50
Miss Behave	3.95	Minikrewe Std. C	4.95
Halcy Miss Behave	2.65	Viking	2.00
Champion	3.95	Modernizer	5.95
Playboy Jr.	4.95		
Variety A-B	3.50		
Shook A-B	2.25		
Miss Tiny A-B	3.25		
Conquer A-B	2.95		
Cornet A-B	2.50		
West Wind R	3.95		
Pacer	3.95		

#### MODEL SUPPLIES

Red-I-MIX Gas Engine Fuel 1/2 Pt. \$3c  
Red-I-MIX Gas Engine Fuel 1 Pt. \$5c

Does not contain castor oil. May be ordered in the following mixes: 1-1; 2-1; 3-1; 4-1. Correctly blended and filtered; always fresh. Add 15c postage.  
Wire Hook-up 10'.....\$ .50  
Champion Spark Plugs, all sizes......50  
Battery Boxes, small and medium......40  
Battery Boxes, large......40  
Sponge Rubber......40  
Wheels, 2 1/2" dia......50  
Sponge Rubber......50  
Wheels, 2 1/2" dia......50  
Aero Colls.....2.50  
Fly Tension Props, any size......35  
Aero Super Colls.....3.00  
1/4" rubber flat 25'......50  
1 1/2" rubber flat 25'......50  
Silkspan for gas models; 3 for......25

#### MODEL ACCESSORIES

Universal Needle Valve.....\$0.85  
Burgess, Penlight.....2 for .15  
Burgess Med......10  
Burgess Large......10  
Burgess 3 Volt Booster Bat......75  
Burgess 3 Volt Flight Class B......85  
Burgess 3 Volt Flight Class C......75 Add 15c postage

#### DOPE & THINNER

1 1/2 oz. bottle.....15c  
2 oz. bottle.....25c  
Dope colors: Delcose Aluminum, Olive Drab, Fokker Red, Intense Black, Instrument Black, White, Dians Green, Deep Orange, Sky Blue, Curtiss Blue, Navy Gray, Leaning Yellow, Stinson Green, Insigma Blue, Maple Brown, Army and Navy Yellow, Consolidated Blue, Clear, Stearman Vermilion.

#### X-ACTO

Knife Chest with handles, 12 blades, fitted in wooden case.....\$3.50  
Knife Chest with all Aluminum handles, fitted in wooden case.....5.00  
No. 1 and No. 2 Knife, each......80  
No. 51 and 52 Knife Set, complete with 6 blades.....1.00  
Blades, Nos. 10, 11, 15, 19, 22, 23X, 24, 25, 26, 27, 28, 29, 30......50  
Jr. Knife......25  
No. 62 Double Knife Set.....2.00  
No. 60 Whittier's Set.....2.00  
No. 40 Block Plane.....1.00  
No. 43 Sanding Kit......10  
No. 44 Hobbler Saw.....1.25  
12 blades Stripper (without knife)......75  
No. 1D & 3D Hand Drill & Pin Vise, ea......75  
No. 2 Mat Knife.....1.00  
Add 10c postage

#### GAS CONTROL LINE FLYERS

Vee-Geo.....\$10.00  
Valron Novibrator.....3.95  
Tether Shark B or C.....1.00  
Rabe "C" Shark A or B.....2.95  
Tether Shark B or C.....3.50  
Tether Shark A, B or C.....7.50  
P47 Thunderbolt.....5.95  
Sting Ray B or C.....4.75



#### GAS ENGINES

OHLSSON 60 "C".....\$18.50  
OHLSSON 23 "A".....15.50  
OHLSSON 19 "A".....14.50  
THE ROCKET—Less coil and condenser.....\$22.50  
THE HORNET—Class C, 60 cu. in., less coil.....35.00  
SUPER SCRAPER—Class B, with coil.....18.50  
BLUE STRAK—Class B, 20 cu. in., less coil.....18.50  
HERMES SUPER 60—coil and condenser.....24.00  
All makes of engines as they become available.  
No C.O.D. shipments unless \$1.00 enclosed with order. Alabama purchasers add 2% sales tax. On all orders be sure and add postage.

MODEL SUPPLY  
DIVISION  
TUTHILL Photo Supply  
Sheffield, Ala.  
100 Atlanta Ave.  
DEALERS:  
Prompt shipments on leading lines. Local dealers. Write to your requirements—large or small.



# Merlin

## SUPER "B"



**\$21.50**  
COMPLETE, ready to run. Includes servo coil and condenser.

MERLIN—the-modern motor rivals the performance wizardry of Merlin-the-fabulous-magician! But Merlin of old relied upon sleight-of-hand to baffle the onlooker! MERLIN—the-modern-motor delivers its performance by virtue of advanced engineering design, modern precision production and new day materials. Here are some of the exclusive features built into your MERLIN Super "B": **STREAMLINED "Air-flow" HEAD** with oversize fins; 1 Piece Body Construction prevents loss of compression and power; **LARGER EXHAUST** speeds complete scavenging; Fully Enclosed **TUNGSTEN POINTS**; Steel Piston, case hardened, ground and lapped (1/10,000" tolerance) for perfect compression seal, maximum power and speed. **FREE BOOK: '33' Exclusive Design Features.** Study them. See why MERLIN SUPER "B" MUST be your next motor buy!

**STREAMLINED AIR-FLOW HEAD**

MERLIN MINIATURES, Inc. P.O. Box 33, Station "V" Brooklyn 15, New York  
In Canada 716 Bathurst Street, Toronto 4, Ontario

**528** PAGES  
**205** DIAGRAMS & PLANS

**"Model Airplane Design" by C. H. Grant**  
**THE COMPLETE INSTRUCTOR ON MODEL FLYING!**  
Only \$3.75 at your favorite model or book store . . . or order from publisher, Air Age Inc., 551-5th Av., New York 17.  
(SEE PAGE 77)



LOCKHEED P-53 SHOOTING STAR

## PHOTOS

The largest selection in the world of Allied and enemy aircraft of World War I and II. Nearly 4,000 different photos listed in our new 1946 illustrated spring catalog, from the Wright Biplane to the latest "jet". Price 25c.

SEND 25c FOR THE NEW 1946 ILLUSTRATED SPRING CATALOG TODAY AND WE WILL INCLUDE THE PHOTO ILLUSTRATED ABOVE FREE.

**AEROPLANE PHOTO SUPPLY COBBOURG, ONTARIO, CANADA**

## WATCH THIS SPACE FOR NEW ADDITIONS

- 3636. Grumman F6F-1 Bearcat
- 3571. Grumman F7F-1 Tigercat
- 3644. Ryan FR-1 Fireball
- 3652. Blackburn Firebrand IV
- 3527. Boeing F-13 Superfortress
- 3512. Boeing YB-40 Flying Hedgehog
- 3528. Boeing XB-39 Superfortress
- 3548. Consolidated B-32 Dominator
- 3517. Consolidated PB2Y-5H Coronado
- 3533. Curtiss XP-60
- 3536. Curtiss XP-60A
- 3531. Curtiss XP-60C
- 3535. Curtiss XP-60D
- 3532. Curtiss XP-60E
- 3534. Curtiss XP-62
- 3529. Douglas P-70 Midnite Mauler
- 3526. Gloster Meteor
- 3546. Lockheed P-80 Shooting Star
- 3550. Lockheed XP-38 Lightning
- 3547. Lockheed PV-2 Harpoon
- 3525. North American P-51K Mustang
- 3545. North American F-6 Mustang
- 3506. Northrop XP-55 Dumbo
- 3515. Republic P-47N Thunderbolt

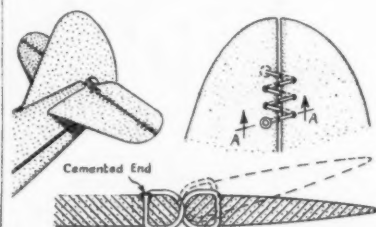
ORDER BY NUMBER ONLY  
PRICE: 3 photos 30c. 12 photos \$1.00  
OVER 250,000 PHOTOS IN STOCK

## GAS MODEL HINTS

by Ray Rusher

### CONTROL SURFACE HINGES

AS YOU all know, elevator hinges for U-Control and Whip Power and rudder and aileron hinges for radio controlled planes must be absolutely free from any binding. So far, cloth hinges have been the accepted answer—but they have one serious objection. Any dope or lacquer on the parts that bend, stiffen their action and soon cause them to break. Here's a neat hinge that permits applying the finish to the plane and then hinging the control surfaces together with thread after the finish is dry, all possibility of finish material getting on the hinges being entirely eliminated.



Section A-A

RAY RUSHER

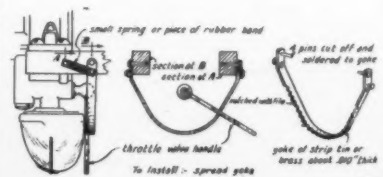
Taking an elevator as an example, drill it and the stabilizer with several small holes as illustrated. After the finish is dry, "sew" the two together with the thread describing several "figure-eights." Cotton, linen or silk thread can be used, stiffening the end of the thread with cement rather than using a needle which would enlarge the holes too much. The threads are drawn as tight as possible without cutting into the edges of the holes and the ends are knotted or cemented in their holes. The result is a hinge superior to cloth, especially when adjacent edges of the stabilizer and elevator are rounded as shown in the sectional view. This type of hinge is also easily renewable and removable for installing a new control surface when necessary.

### ADJUSTMENT RETAINER FOR ATOM CARBURETOR

MOST Atom users have experienced a gradual and undesirable creeping of the throttle valve handle out of the position to which it is adjusted due to vibration caused by operation of the engine. Bending the throttle valve or squeezing the sleeve in which it fits are decidedly the wrong methods of remedying this trouble from the standpoint of subsequent mechanical wear. They result in leakage which eventually renders the throttle and sleeve unfit for satisfactory use.

An excellent method of solving the

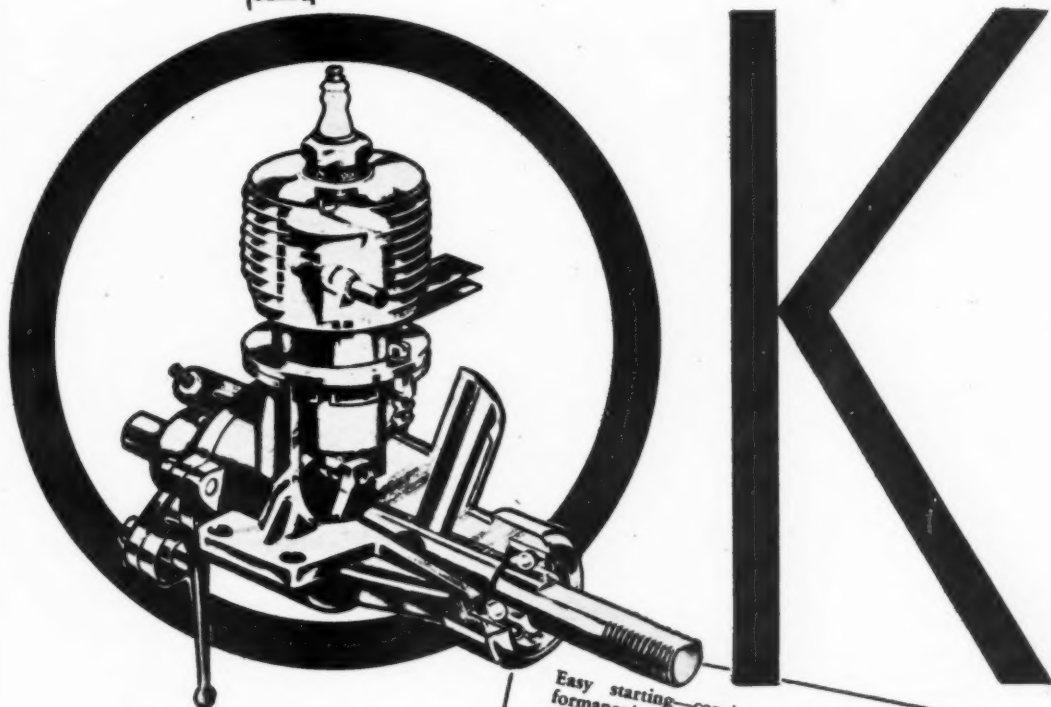
(Turn to page 46)







**"A SNAP to Start!"**



**SUPER 60**

Bore .....900  
Stroke .....950  
Displ. ....604  
Weight (bare)....12 ozs.

**\$24** With Coil,  
Condenser,  
Spark Plug  
& Tank



Contractors To  
U. S. Army Air Forces

**HERKIMER**

**Tool & Model Works**  
**HERKIMER, New York**  
Dept MA-1

Easy starting—consistent, dependable performance! . . . rooted deep in 'know-what' 'know-why' 'know-how' . . .  
And 'OK'—yesterday's, today's, tomorrow's—will possess these basic qualities—always designed to *give!* Trade talk classifies 'OK' as an engineer's engine for basic honesty—in design and construction! You can do no better than entrust your ship model to a 'Super 60'—get into the winner's circle, get an 'OK.'  
*Ask your dealer for an 'OK'—his new allotment may include one for you!*

**YOUR 'SUPER 60' INCLUDES:**  
PATENTED (Pat. No. 2,179,683) — DEEP  
FINS — EFFICIENT COOLING — HIGH  
TURBULENCE PISTON HEAD — HARDENED  
CAM SHAFT — ACCESSIBLE TIMER CON-  
TROL — ROTARY VALVES for HIGH PER-  
FORMANCE — BALL BEARING RADIAL  
THRUST—HARDENED STEEL PROP FLANGE

**DEPENDABLE**

EXPORT OFFICE: 120 Wall St., New York 5, N.Y. CABLE ADDRESS (All Cables): "Concordia," New York.

## The WEASEL



### Build this famous Army Amphibian!

YOU'll be amazed at the striking realism of your finished model! Scaled  $\frac{1}{4}$ " to 1", this war-famous land and water craft makes a splendid project for wintry days indoors. Kit includes many machined parts, 100 molded track shoes, plastic wheels, die-cut fibre-board trim parts, 4-view drawings, with complete instructions, and photographs. **COMPLETE KIT \$2.95**

**Plan NOW to visit our fully stocked HOBBY CENTER!**



Enjoy the convenience of finding everything you need in modelling material in one place!

#### AIRPLANE KITS

Solid models—rubber flyers—gas-engine powered control line and free-flight flyers—many new plastic planes—plans, etc.

#### MILITARY MODELS

Landing craft—Jeeps—Tanks—Anti-aircraft Guns—Scout Cars—Half-tracks.

#### SCALE MODEL RAILROADS

Locos—Car Kits—Track—Accessories in all Gauges... a truly wonderful selection.

#### BOATS—SHIPS

PT's—Submarines—Balsa Kits—Authentic solid metal models!

#### BOOKS—ACCESSORIES

Books on every modeling subject—Balsa—Engines—Wheels—Dope—Paint—Decals, etc.

**Hobby Center**  
ONE FLOOR

**Mandel Brothers**  
**CHICAGO, ILL.**

MASTERPLANS by BILL WYLAM for the February issue of M.A.N. will cover further details of the DeHaviland 4 and will enable the World War I fans to build a super detailed model of this famous flyer.

N-E-W S-T-O-C-K

PRE-WAR QUALITY—NON SYNTHETIC—NO RECLAIM

## PURE GUM RUBBER

$\frac{3}{16}$ " FLAT @ 2c PER FT.; SKEIN '210' APPR @ \$3.65 P.P.  
 $\frac{3}{16}$ " FLAT @ 3c PER FT.; SKEIN '135' APPR @ \$3.65 P.P.

**DEALERS AND JOBBERS WRITE FOR PRICES**

MINIMUM ORDER—\$1.00 P.P. NO C.O.D.

**CENTURY MODEL AIRCRAFT CO.**  
3957 W. 165 STREET CLEVELAND 11, OHIO

## STRAWBRIDGE & CLOTHIER



## 9 COLOR DOPE ASSORTMENT

It's new! A carton full of colored dope! A perfect finish for painting models! Colors are Yellow, Battleship Gray, Sky Blue, Olive Drab, Red, Silver, with Black, Clear, White and Diluting Dope. Assortment Set \$1.00

## Explore the HOBBY CENTER!

SEE for yourself the great variety of fascinating model projects. Discover what other Philadelphians have found—a well-stocked hobby department carrying every available item. There's Kits to build Airplanes, Ships, Railroad pikes, Military Vehicles; Books to Show you how; Plans to work from; Tools to aid you; Accessories, wood, cement, whatever your need may be.

Regular charge privileges—delivery service. Mail orders promptly filled.

HOBBY CENTER—5th FLOOR

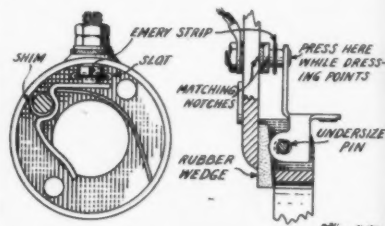
**STRAWBRIDGE & CLOTHIER**  
**PHILADELPHIA**

difficulty is to provide a notched yoke to engage the throttle handle and positively hold it in any adjusted position. The yoke is pivoted to the engine bearers and small pieces of rubberband or springs are used to engage the notches with the handle as shown on the drawing. These springs or pieces of rubberband also hold the yoke in its installed position.

The retainer is very light in weight and simple to construct and place in position. It will be found a valuable accessory to any Atom engine and well worth the time required to make it.

## RECONDITIONING IGNITION POINTS

KEEPING ignition points in excellent condition is easy if you "polish" them. Mere sanding or filing is not enough, a high polish is necessary. Honing is a good method but precision holding jigs must be provided for the points or they won't seat flat against each other over their entire area. Flat seating is imperative for maximum current flow and to prevent pitting after a short engine run.



Arthur Chitt

The author has found that strips of emery paper of successively finer grades such as 500, 600 and 700, and finally emery polishing paper, are best for securing the desired results—a polish that reflects light like a mirror. For precision, don't be satisfied with inspection by the unaided eye but use a powerful magnifying glass such as a jeweler's eye piece or "loupe." Only in this way can fine scratches be detected. To insure that the points are dressed properly, the methods for Ohlsson and Atom engines will be explained and will suggest how others can be reconditioned.

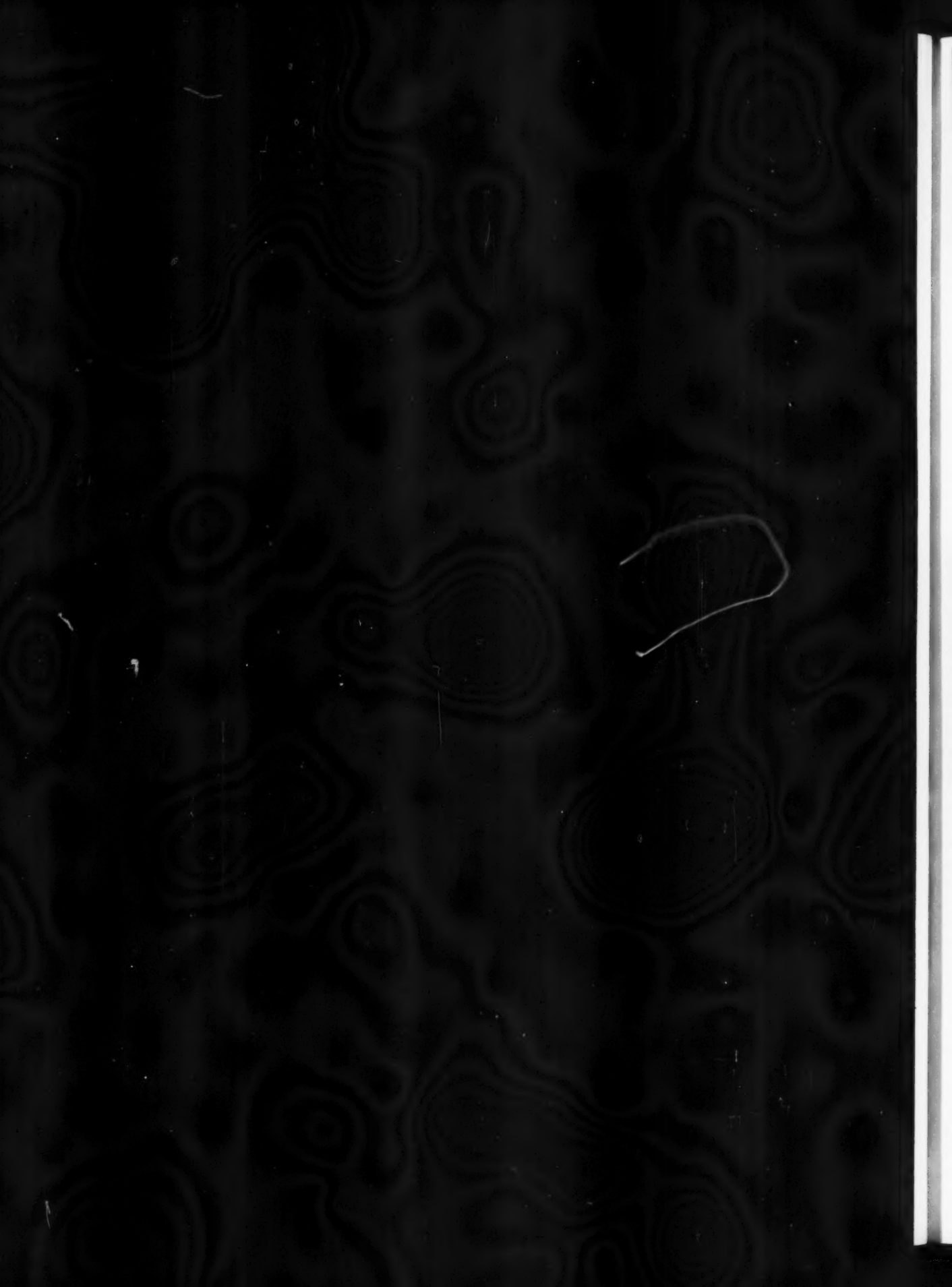
By means of drilled holes, jeweler's hack saw and thin files or strips of coarse emery paper, cut a  $\frac{1}{32}$ " x  $\frac{7}{32}$ " slot in the back wall of the Ohlsson timer housing in line with the gap between the points so that an 8" or 10" strip of emery paper  $\frac{3}{16}$ " wide can be used for dressing the points in a minimum of time (with the timer removed from the engine and held in a vise). Put a shim, consisting of a short piece of the emery paper strip (preferably worn) between the timer arm and its pivot pin so that when the long strip is moved back and forth between the points with the timer spring in position to provide pressure, the points will be finished parallel to each other with their distance apart equal to the thickness of the emery paper.

When the points are finished and the shim removed, the points will be found to seat perfectly. For greater accuracy the shim may be of brass, of worn emery paper thickness and tapered to a feather edge as shown.

The stationary timer point should be marked by sawing a slot in the outer end to line up with either the axis of rotation of the crankshaft or the front face of the crankcase. The point can then always be reinstalled in the same position if the timer point nut becomes loose and requires retightening. Otherwise the

(Turn to page 49)







# LOOK AT THIS MARVELOUS MODEL MAKING MATERIEL



WITHOUT doubt here are the finest 50¢ boat kits ever offered modelers! With all-balsa material, and built cut-to-outline, they're easy to build and realistic in appearance. Here's the list and lengths:

AIRCRAFT CARRIER 11"; LIBERTY SHIP 10 1/2"; DESTROYER ESCORT 10 1/2"; SOVEREIGN OF THE SEAS 12" and famous CONSTITUTION 12 1/2" (from stern to bow). Each kit 50¢. (Add 10% for postage)



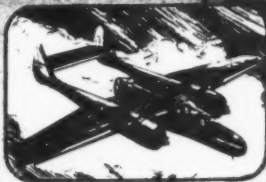
DESTROYER TORPEDO BOAT

NO modeler's collection is complete without at least one PATROL TORPEDO BOAT! Most dramatic of all the Navy's defense and attack forces, these "Mosquito" boats are available in a variety of kits, from the simple-to-build beginner's sets to the more comprehensive advanced-modeler outfits.

Most complete kit is the ELCO PT BOAT which makes a model 15" long. Price \$7.95 (pp \$8.50). The packing-postage price on others are \$5.50, \$3.00, and beginner's kits at \$1.75 and 65¢.

HERE'S a new masterpiece kit! Perfect in a beautiful 40-page color book and material to make the 17 1/2" long SCORPION's many armaments, including landing gear and propellers, with a flag of honor. Your pleasure now is to build it.

Kit includes material for building a THUNDERBOLT, FOLIE-WOLF, HELICAT, TYPHOON, SPITFIRE and MUSTANG. \$2.50 (pp \$2.75)



If you want to build larger models, the Faraday line of 1/2" SCORPION gives you a selection of "zoomer" planes that have pre-carved, shaped fuselage, wing and engine sections of finest quality balsa!

Kits include die-cut templates, extra 1/2" scale drawings, formed cockpit, etc. The kit includes Jap ZERO, SPITFIRE, MUSTANG, AROCCOBA, \$2.95; P-38 LIGHTNING \$3.50; THUNDERBOLT, HELICAT \$5.50. (Add 10% for packing-postage)

## "ZOOMER" GLIDER

Requires no cutting-gluing! Assembled in 3 minutes. Adjustable wing for speed, distance, alt. List \$1.00

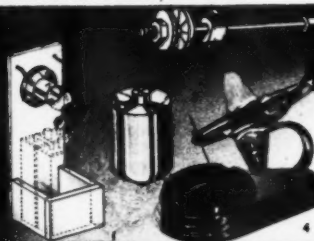
## BLACK WIDOW

The war-produced, largest, most powerful night-fighting pursuit plane can be duplicated in a beautiful solid model miniature with the material furnished in this 1/2" scale kit!

Construction has been simplified to save you hours of building time. Step-by-step instructions with two large 22 x 34" sheets of plans make assembly simple enough for a beginner! \$3.95 (pp \$4.20)



## ACCESSORIES



CHARGES any type Power-Plus Battery. Requires auto bulb to regulate charge. Lucite. \$1.95

2—ENGINE EXTENSION SHAFT. Extends prop. 4". Adaptor fits any Class C engine. \$2.00

3—SWIVEL GAS TANK. Plated aluminum. 1 1/2" dia. x 2" deep. Absolutely leak-proof. Stays vertical while plane banks. Eliminates gas starving-engine sputtering-crashes. \$2.50

4—AIRPLANE ASHTRAY. Plated metal. Removable glass tray. Mustang plane. \$10.00

5—2 1/2" BALLOON RIBBED TIRE. Pr. \$1.00

6—GREAT. For your duty Class C \$3.40

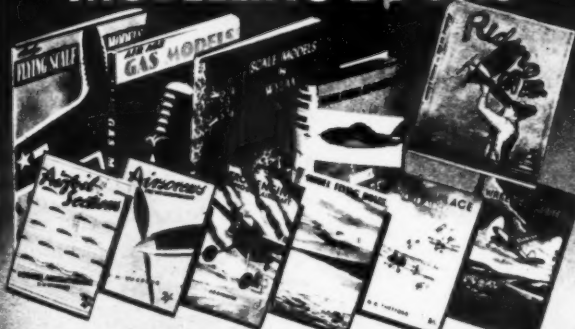
7—PNEUMATIC WHEELS. Permanently inflated. Pair 2 1/2" \$1.40; 3" \$1.40; 3 1/2" \$1.80. Light weight.

8—HOME BATTERY CHARGER. Automatically charges Power-Plus Super or similar. Charger only \$4.25

9—ADJUSTABLE ENGINE MOUNTS. Allows precision adjustment of thrust line. Takes any motor. Weight 1 1/2" oz. Pair \$1.50. Include 10% for package-postage

## MODELLING BOOKS

## MODELLER'S TOOLS



TO understand how airplanes fly, know how to build and fly models, read the books written by the experts! No matter where your interest lies, be it rubber-powered, gas engine operated, non-flying solids, hand-launched gliders, control-line flyers or what, you'll find a book has been written about the subject.

DESIGN OF WAKEFIELD MODELS \$1.50

MODEL GLIDER DESIGN, 192 photos. \$1.50

Frank Zalc's new book, 44 photos. \$1.00

PLANE MODEL WINNERS, Book No. 1 \$1.00

Construction data for 12 models.

JUNIOR MODEL PLANES. For young and old. \$1.50

Most cleverly illustrated.

MODEL GAS ENGINE HANDBOOK, Winston \$1.00

A "must" for every gas modeller.

BUILDING ON AIR \$2.00

No finer book ever written on airplane modelling!

You can get these books at Polk's. Space limits the number that can be listed here, so don't hesitate to ask for a particular title not shown. Start now to build up a complete Modeler's Library! Polk's pay all postage cost, regardless of destination!

AIR AGE FLYING SCALE MODELS, 104 pages \$1.50

Plans, photos, for 16 flying models.

AIR AGE GAS MODELS, 144 pages \$2.00

Describes 21 Class A, B, C control-line.

SCALE MODELS by Wylan. Book 1 & 2 ea. \$1.50

The work of a master model designer.

MODEL AIRPLANE DESIGN & THEORY OF FLIGHT

By Grant. 528 pages, 205 diagrams. \$3.50

ENGLAND'S MODEL AIRCRAFT BOOKS, by Britain's foremost model designers. AIRFOIL SECTIONS

\$1.00; AIRSCREWS \$1.00; PETROL ENGINES \$1.50;

MODEL FLYING BOATS \$1.50; CAMOUFLAGE \$1.50;



MODELLING work requires tools especially adapted to precision craftsmanship. Every marvellous instrument, device or gadget that will aid in the assembling of model airplanes has been gathered together by Polk's for your convenience.

- 1—Traction tools, No. 1 Set \$3.50; No. 2 Set \$2.40; No. 3 Brush Set \$1.50; No. 4 large Carborundum Set \$3.00; No. 5 small Burr Set \$2.40; No. 6 plating Grinding Burr Set \$3.60; No. 7 Vulscombe Burr Set \$5.40; No. 9 Assort. Carborundum Set \$2.40; No. 18 Set, large assort. \$5.00; No. 26 Set, deluxe \$7.50
- 2—Needle files, 4", twelve to set \$3.50
- 3—Kacto knives, 5 extra blades, Hqs. 1&2 ea. \$1.00
- 4—Screw driver with set of 6 shafts \$4.50
- 5—Twosers, pointed, hi-grade steel 90¢
- 6—Twosers, self-locking \$3.00
- 7—Vulscombe chisel, set of 6 \$5.00
- 8—Electric soldering iron, 30 watts \$1.95

various in ordering. Select from the list below the articles you need right now, and then keep adding more. Soon you'll have a complete modeller's tool kit. Include 10% for pp.

- 9—Jeweler's saw frame \$2.25; blades 50¢
- 10—Steel awl \$2.15
- 11—Stencils knife 75¢
- 12—Murphy carving knife 65¢
- 13—Brass double-end pin vise \$1.25
- 14—Single-end pin vise 75¢
- 15—Taps, 0-80, 1-72, 2-56, 3-48, ea. 65¢
- 16—Kacto sander, with 3 grades of paper 50¢
- 17—Sanding stick 35¢
- 18—Balsa strip, with movable guide \$1.00
- 19—Drill set Nos. 61 to 80 in compact case \$3.50
- 20—Kacto No. 83 Deluxe chest, 3 cl. handles \$3.00



60 Page illustrated SOLID CATALOG Shows all kits from all sources. Building tips and methods included. Send 15¢ coin or stamps for your copy.

## POLK'S MODEL CRAFT HOBBIES

World's Leading Hobby House

DEPT. MAN-1, 314 FIFTH AVE., NEW YORK CITY (1)

DEALERS: Representing over 250 suppliers, Polk's offer economies of bulk shipping, billing, checking, at top discounts and speedy delivery! Write or wire our DEALER SERVICE BUREAU.





## SOUTHERN DEALERS

840 UNION STREET  
IN NEW ORLEANS IS  
**MOD-KRAFF CO.'s**  
**NEW ADDRESS!**

Starting 17 years ago, the Mod-Kraff Co. has pioneered in the distribution of the very best hobby kits and supplies. Now, in our new location in downtown New Orleans, we can better serve you with the excellent merchandise from the outstanding manufacturers listed at the left.

Write for prices and discounts.

# mod kraff co

840 Union St., New Orleans 12, La.

INTRODUCING

# THE METEOR

NEW PREFABRICATED SPEED-KIT BY EDCO  
WITH PATENTED SPEED SNAP\*

Wing Span 24"  
Overall length 27"

Licensed Under  
J. Walker U Control  
Pat. #2-292-416

Takes any B or C  
Motor, including  
Hornet

The METEOR  
has been clocked  
at over 115 MPH.

Ready for  
IMMEDIATE DELIVERY

only \$8.95 Postage 30c

Check or Money Order only,  
no COD's, please . . .

THE  
**TYPHOON**  
Coming Soon,  
The Engine  
that has been  
"Imagineered."

A simplified screw-free method of holding upper and lower fuselage sections together; completely eliminating this troublesome problem.

ENGINEERING DEVELOPMENT CO., Ohio at Maple, Escondido, California

America's First completely prefabricated speed kit. All parts cut exactly to size by die cutting; can be assembled in 6 hours.

Designed for the ultimate in speed, stability, maneuverability, and ease of construction.

Design is truly functional; engine, fuel tank, coil and battery are all readily accessible.

Also included are the finest illustrated plans and instructions you have yet seen, for assembling, testing, and flying the METEOR.

points may not reseal squarely as they should.

For the *Atom* timer, remove the timer arm pivot pin and substitute an undersize pin that is equal to the original pin diameter minus the thickness of the emery paper. The regular pin is 1/16" or .0625" in diameter. If the emery paper is .006" thick, then the substituted undersize pin should be .0625" - .006" = .0565". The timer arm should then be held outward or in a direction away from the timer bracket during the dressing operation. This can be done by inserting a rubber wedge cut from an eraser.

As with the *Ohlsson* timer, use a vise while working on the points. For aligning the stationary timer point, its edge can be notched to match a notch in the timer bracket.

After polishing the points, be sure to wash the timer thoroughly in gasoline or naphtha to flush out any emery or point dust that will cause trouble if not removed. You will find that points polished in the described manner will prevent much engine trouble and keep it operating many times longer than when any other method is used.

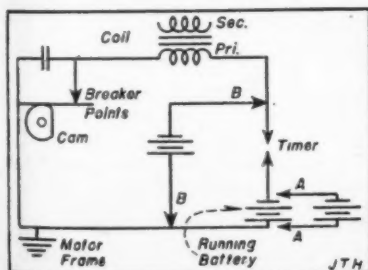
## GAS LINES

**Questions:** What is the correct way to connect a booster battery in the ignition circuit?

**Answer:** There are several ways, all of them correct. In the hookup of the accompanying diagram the booster is installed parallel to the small batteries as at AA, which has the advantage that when the engine starts running no switch-over is needed; simply disconnect the booster. The other popular way is to install the booster so the timer does not affect it; that is, with one of its leads going to the coil and the other directly to ground as shown at BB. In this case only the small batteries are in the flight timer circuit, so before the booster can be disconnected the timer has to be operated to close the circuit.

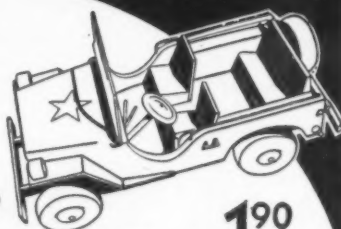
With both these methods the life of the small batteries is about the same, but theoretically the second way described is preferable for longer life.

The flight timer can be connected into the circuit at any place as long as it closes and breaks the flow of current from the batteries through the primary of the coil. The polarity of the batteries can be reversed without causing any difference in performance but the flight battery and booster battery (plus and minus) should always be parallel to each other. If the booster is hooked on reversed for any reason, the small batteries will be ruined in a short time.



# ACCURATE... DURABLE!

*Leddy* JEEP

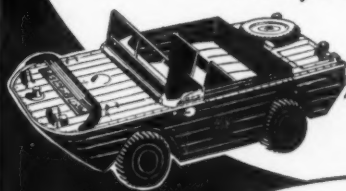


Complete Kit . . . 1<sup>90</sup>

Here are two "Engineering" projects worthy of your skill. Both these beauties have all the best materials . . . to express your craftsmanship to the full. You'll have a beautiful model of scaled perfection and great durability! Both kits include kiln dried pattern wood thruout. Nearly all parts completely pre-shaped. Complete accessories included such as celluloid windshield, accurately shaped wheels that roll, striking decal insignia. In fact, in one short evening you can assemble and finish a model that is as "sturdy as a scooter" . . . and as realistic as the "real thing" in miniature! Complete, easy-to-follow plans. No special tools or equipment needed. Either model at your dealer or sent postpaid.

*Leddy* AMPHIBIAN JEEP 2<sup>50</sup>

Complete Kit . . .



at all dealers or remit  
price for either Jeep

STEWART P. ELLIOTT  
820 MISSION ST.  
San Francisco 3

# PLASTICO ROK

at last—the Perfect Medium  
To TRANSLATE  
your SKILL into Beautiful Models

In a short time this amazing material has literally spread thru the Model Making World as the ideal material! PLASTICO ROK not only does SPECIFIC jobs BETTER . . . but is an ALL-AROUND medium. It has become a real MUST for all types of model making. For refinements and correcting errors . . . for a smooth uniform surface with no cracks or imperfections, it has no equal! Sand-paper it . . . carve . . . saw . . . then finish as smooth as glass. It also does many household jobs to perfection. Wide variety of brilliant colors, also in light or dark Oak; Mahogany and in authentic Military Olive Drab and Battleship Gray. Thin with water for use as paint.

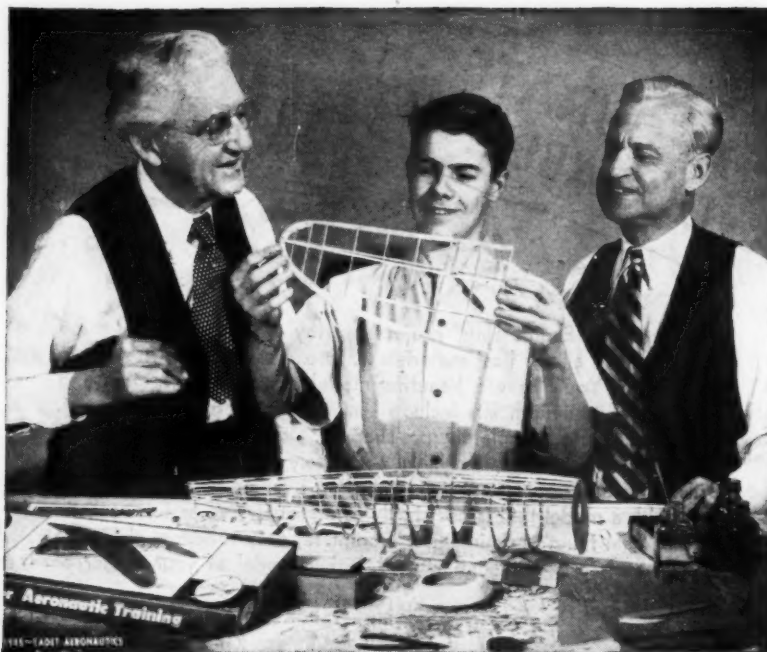
At all dealers or send 30c per 3 oz. tube. Money Order, stamps or coin. Please name colors.

STEWART P.  
ELLIOTT

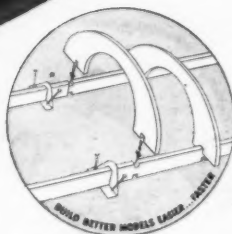
820 Mission Street San Francisco 3  
NATIONAL DISTRIBUTOR TO THE HOBBY TRADE  
Jobbers and Dealers—Please Write for Terms







## HOW KEEL KRAFT HELPS BUILD BETTER FLYER MODELS



With Keel Kraft construction you simply pin the pre-fabricated notched keels on the plan itself, add bulkwads and in half the usual time the fuselage is finished... The wings, tail surfaces and landing gear are self aligning for more accurate assembly... If you want to own better performing models at a minimum cost... Build one Cadet Keel Kraft type, and you'll never be satisfied 'till you've built them all.

### NEW FLYING MODELS WITH KEEL KRAFT CONSTRUCTION

**\$1** EACH

MUSTANG D1—Span 27 $\frac{3}{4}$ "  
THUNDERBOLT D2—Span 31"  
HELLCAT D3—Span 31 $\frac{1}{2}$ "

If your local dealer is  
out of stock drop us  
a penny post card.



## CADET AERONAUTICS

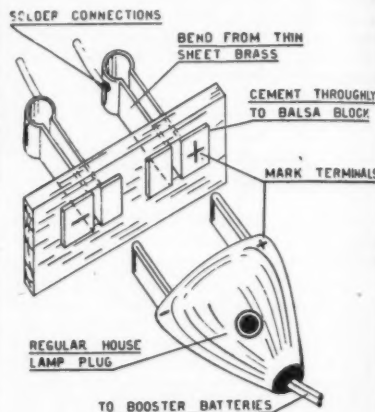
A DIVISION OF WINNER ENGINEERING CORPORATION  
FACTORY: Trenton 1, New Jersey • SALES OFFICE: 41 East 42nd Street, New York 17, N. Y.

## Booster Plug Connections

by Corp. Jerry Stoloff

PROBABLY at one time or another during a day's flying or while at a contest, someone has borrowed your booster batteries, which consisted of alligator clamp terminals, and failed to return them. This left you stranded without batteries; then you had to do the borrowing. When using the conventional alligator clamp connections too much time and handling are wasted engaging and disengaging the boosters. With the booster connection outlet shown in the drawing, valuable time is saved in starting the motor and launching the model.

With the male part of the booster connection being a regular house lamp plug, the booster batteries are of no use to the model builder with the conventional booster outlet. Thus if batteries



are to be saved from loss due to borrowing be sure to incorporate this unusual type booster connection in your next model.

The female part of the connection which resembles the inside of a house outlet connection is bent to shape from thin brass, making sure the depth is sufficient to allow for the entire length of the male plug.

A hard piece of balsa, about 3/16" thick, is used as the base on which the terminals are cemented thoroughly. The positive and negative terminals should not touch as this will cause a short circuit. The wires leading to the booster connections are soldered to the rear part of it.

Be sure to mark carefully the positive and negative positions on both the outlet and the booster plug in order to prevent a shorting of batteries when switching over for flight. Now, with this arrangement, starting your engine will mean just the insertion of the booster plug with the knowledge that a good contact will be obtained.

### PHOTO CREDITS

Page  
2

Top—Press Association  
Bottom—U.S. Navy from British  
Combine

22

All—Harold G. Martin

34

All—Charles Donald

ther dur-  
a contest,  
ster bat-  
or clamp  
n them.  
batteries;  
g. When  
or clamp  
handling  
ng the  
nnection  
valuable  
otor and  
booster  
se lamp  
f no use  
conven-  
batteries

THROUGHLY  
A BLOCK

TERMINALS

borrow-  
unusual  
r next

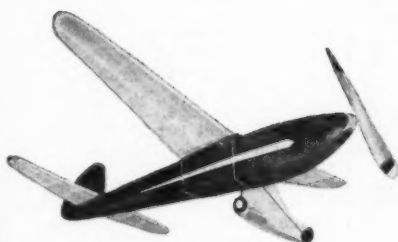
nection  
house  
e from  
epth is  
length

t 3/16"  
ich the  
y. The  
should  
ort cir-  
booster  
ar part

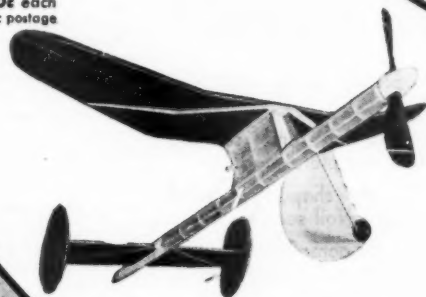
positive  
outlet  
prevent  
itching  
range-  
mean  
r plug  
contact

British

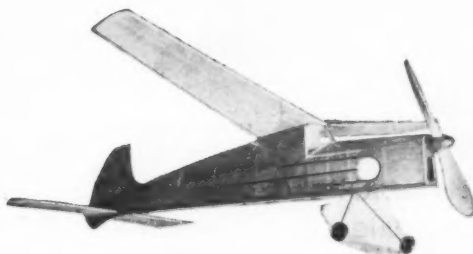
# MEGOW'S SENSATIONAL *New Transition* MODELS 50¢ postage 15c extra



**SJ-3. SAPPHIRE.** Conventional construction. Materials and full size drawn and photographic plans. Wingspan 32 in. Length 28 in. **50c each** plus 15c postage



**SJ-2. FLYING MANTIS.** Single keel construction. Wingspan 32 in. Length 28 in. Materials and full size drawn and photographic plans. **50c each** plus 15c postage

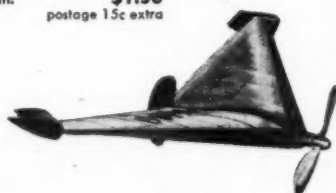


**SJ-1. SPITBALL.** Crutch construction. Wingspan 32 in. Length 28 in. Materials and full size drawn and photographic plans. **50c each** plus 15c postage



**Z-4 TOWLINE SAILPLANE**

Started by towline, it disengages and stays aloft for several minutes to an hour or more. Excellent for study of air currents and thermals. For Class D competition. 54 in. Wingspan. **\$1.50** postage 15c extra



**SX-1. FLYING WING.** The "Airplane of tomorrow" without fuselage or tail planes, with controls at wing tips. Great for stability, control and efficiency. Ideal rubber powered flying model. Wt. 3 3/4 oz. Wingspan 30 in. Length 17 in. **\$1.25** post. 25c extra

**THREE** brand new designs that fill the gap between amateur and contest models . . . designs that provide instruction and experience in the theory of flight and in the various types of construction in general use. Easily and quickly built, they make long flights. The three designs offer a choice of crutch, single keel or conventional construction types.

## MEGOW

Howard & Oxford Streets  
Philadelphia 22, Pa.

Money order for \$\_\_\_\_\_ enclosed, for which please send:

- . . . **SJ-1. SPITBALL.** (50c ea. plus 15c post. & pack.)
- . . . **SJ-2. FLYING MANTIS.** (50c ea. plus 15c post. & pack.)
- . . . **SJ-3. SAPPHIRE.** (50c ea. plus 15c post. & pack.)
- . . . **SX-1. FLYING WING.** (\$1.25 plus 15c post. & pack.)
- . . . **Z-4. TOWLINE SAILPLANE.** \$1.50 plus 15c post. & pack.)
- . . . **SC. REEL-CONTROL GLIDERS.** (45c ea. plus 10c post. & pack.)

Insert Nos. wanted here \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

## Reel-Control GLIDERS 35c each Post. 10c extra

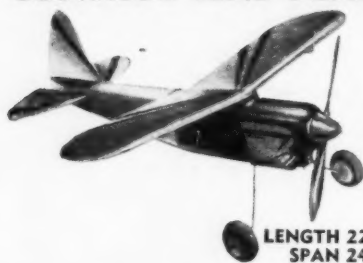
- SC-1. MUSTANG
- SC-2. F6F HELLCAT
- SC-3. P4YD THUNDERBOLT
- SC-4. F4U CORSAIR
- SC-5. Jap ZERO
- SC-6. FOCKE-WULF 190



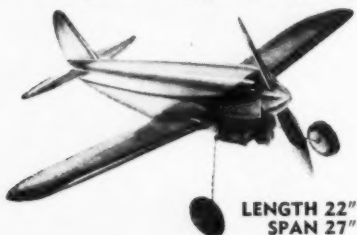
New style profile Gliders for hand or catapult flying, or for reel-and-line flying. Easy to build, excitingly attractive and colorful with victory insignia. Large step-by-step instructions.

# ★ ANNOUNCING ★

## CONTROL LINE PLANES FOR CLASS B OR C



LENGTH 22"  
SPAN 24"  
**THE WASP (high wing) \$7.50**



LENGTH 22"  
SPAN 27"  
**THE HORNET (low wing) \$7.50**

- NOTHING COMPARES WITH THE WASP AND THE HORNET FOR QUICK ASSEMBLY AND EASY FLYING.

## It's Atomic!

- SIMPLICITY OF CONSTRUCTION
- BEAUTY OF FINISH
- ABILITY IN FLIGHT

## Just Think!

- All 19 pieces ready cut and shaped.
- Only cementing and sanding needed to complete model.
- Wing is fully shaped of solid balsa to an airfoil section.
- These kits are complete including oil tempered steel wire for landing and control gear.
- Dural Bellcrank is adjustable for straight or stunt flying.
- Plastic Spinner.
- Deluxe rubber wheels.

PRODUCED UNDER JIM WALKER'S U CONTROL PATENT NO. 2292416

## AND THE SENSATIONAL CONTROL LINE SPORT BIPLANE!

"THE FIRST CONTROL LINE BIPLANE KIT"

A Model that flies and looks like the real thing!

A Plane you will be proud to own and exhibit!

The natural stability makes it easy to fly, yet very maneuverable.

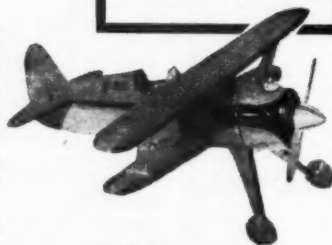
Takes off in 20 ft. run, lands like a feather!

Although designed for sport flying it has flown over 78 mph with Class C motor!

Photo shows amazing simplicity and ruggedness of new super keel-former construction.

### FEATURES

1. **READY CUT.** All airfoils, etc., are cut to shape—NO Tedious Cutout Work!
2. **RIGID.** New keel-former construction and completely planked fuselage.
3. **QUICK TO BUILD.** Precut pieces and clear cut plans reduce building time 75%.
4. **QUALITY.** Contains highest grade balsa, wire, plywood.
5. **IMMEDIATE CONSTRUCTION.**



30" wingspan  
25" overall length

## "G-13"

ALL BALSA KIT FOR  
CLASS B OR C MOTORS

Price 7.95

## SEE YOUR DEALER FIRST

JOBBER AND DEALERS WRITE

PRODUCED FOR PERFECT PERFORMANCE

BY

# GIRARD MODEL INDUSTRIES

313 Lorton Ave.  
BURLINGAME  
CALIFORNIA

## The Wisp

(Continued from page 32)

stabilizer to smooth airfoil section; never leave the trailing edge squared off but sand it to a sharp edge.

The wing is built around a 3/32" sq. leading edge, a 1/8" sq. spar, and a 1/4" x 3/32" trailing edge. From very soft 1/16" or 1/20" sheet cut 16 main ribs. Place them side by side upright on the table and sand them even so the paper job will be smooth. Firmly glue them and the tip ribs and 1/16" sheet tips in place and reglue all the joints for strength. Sand the wing tips and trailing edge to sharp edges. Leaving the section over the cabin flat, give the tips 1 1/2" dihedral and brace and glue the centersection firmly.

The framework is now completed except for the all-important propeller. Many an otherwise beautifully constructed model has failed to fly simply because of a poor prop. So don't pass it over lightly, do a good job and you will be well rewarded. Don't be lazy and buy a cheap inefficient one at your dealers; instead try cutting one out from the block dimensions given—it's not hard and really gives you a good job. Using a medium weight block accurately cut it to dimensions given on the plan, then simply cut away the excess. Round off the corners until the outline has the usual smooth lines and pointed tips. Carefully sand this into a smooth slightly cambered airfoil section with thin tips and trailing edges. Balance carefully in the middle, sanding the heavier blade until they are even. Shape a spinner from a soft block and fit it onto the prop. Put a hardwood thrust button and several washers on a prop shaft, then secure it to the prop and spinner. Now give the whole several coats of dope, clear or colored, sanding lightly in between coats until your prop is smooth and strong, giving high thrust and low drag. Since the rubber motor tilts down and would give the prop up-thrust, securely glue the thrust button into the nose-block at slight down-thrust and right-thrust; the latter will counteract torque and induce turning climb to the right.

Your little dream ship is now ready to be covered. Pick any color scheme desired (the original was black with red trim), but make it flashy, for your Wisp is sure to be an eye-catcher. Using dope as an adhesive, put the covering on smoothly and evenly sticking down all loose ends. Through more than eleven years experience we have found that paper applied with the grain going spanwise on the wing results in a tight job, but one that sags excessively between ribs, ruining the airfoil and greatly lowering the lift. So we apply the paper with the grain running chordwise and, by allowing it to pull the wing evenly up to elliptical dihedral, we obtain a practically perfect job with a great deal less dip between ribs and a much more efficient wing. Try this method once; we believe it best although everyone else uses the opposite system. The elliptical dihedral should lift the tips to about 2".

Whatever method you use, do a neat job and prevent excessive warping while the water spray and dope are drying by holding the surface flat on a table with books, etc. Two coats of dope are needed for strength and to fill in the pores of the tissue so the wings do not "leak." Lastly, glue in the tail pieces, put a dowel in front of the cabin and a hook in the middle at back of the cabin as hooks for the rubberbands that hold on the wing.

(Turn to page 54)





*Seems like Everybody wants  
Scientific Kits for Christmas!*

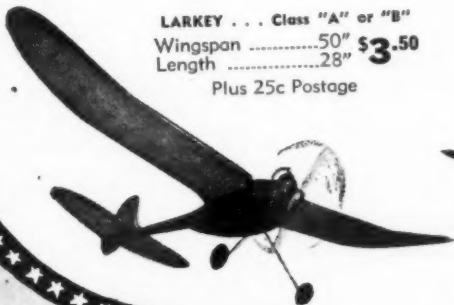
*You couldn't give . . . You couldn't receive  
a better kit than a SCIENTIFIC!*

## GAS CHAMPS

*Everyone A Winner!*

These famous Gas Models are ALL BALSA,  
complete with wheels, landing gear, ce-  
ment, etc.

LARKEY . . . Class "A" or "B"  
Wingspan .....50" **\$3.50**  
Length .....28"  
Plus 25c Postage



MERCURY . . . Class "C"  
Wingspan .....72" **\$5.50**  
Length .....52"  
Plus 25c Postage



CORONET . . . Class "A" or "B"  
Wingspan .....46" **\$2.50**  
Length .....30"  
Plus 25c Postage



MISS AMERICA  
40" Wingspan

**3 GAS-TYPE  
SENSATIONS**

**\$1.75 EACH**

Add 15c for  
postage

FLEA.....36" Wingspan



FIREFLY  
36" Wingspan

**"SCIENCE-CRAFT" SERIES**

**\$1.00**

each

Add 15c for packing and postage



Republic P-47  
"THUNDERBOLT"



No. Amer. P-51  
"MUSTANG"

*Top  
Flight*

"GAS MODEL  
HEADQUARTERS"

**Scientific**  
MODEL AIRPLANE CO.

218-220 M-1 MARKET ST.  
NEWARK, 2. N. J.

INCLUDED IN  
SUPER  
CRUISER  
KIT

## PIPER'S "HOW TO FLY"

Take a course in Flying! From take-off to perfect landing—"How to Fly" describes and pictures all the basic steps in flying. Over 50 step-by-step photos. If you ever dream of someday owning a plane or are a modeller, you will find this book fascinating and instructive.

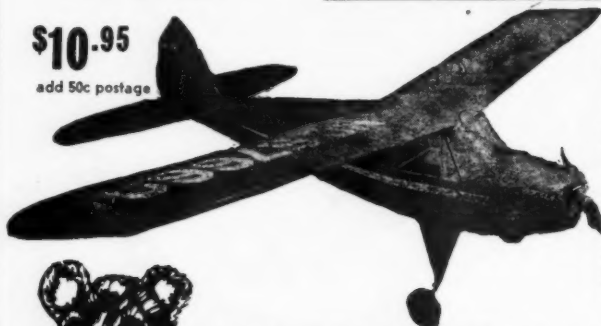


### PIPER CUB SUPER CRUISER

### CAPITOL'S NEW 7 ft. FLYING MODEL Is A Super-Detailed Replica

\$10.95

add 50c postage



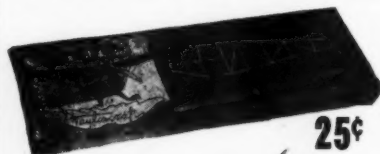
#### CLASS "C" MOTORS

Wingspan 7 ft. (84")  
Wing Area—  
Over 6 sq. ft.  
For Aerial Photog-  
raphy, Vast Pay-  
load Capacity, Su-  
perb Free Flight,  
Suitable for Radio  
Control & Control  
Line.



## A CHAMPION IS BORN!

A brilliant newcomer to the gas model field. The PIPER CUB Super Cruiser has been designed to perfection by an outstanding aircraft engineer. Super Cruiser is ideal for classroom demonstration and instruction. The profusely illustrated plans are brilliantly done. Drawings provide for installation of a box camera. Shutter works off the timer. This ship will carry up to 1 extra pint of gas for long, sustained flight under control. Design features incorporated include "lift-up" cowl for quick accessibility to motor. Entire power unit is removable intact for bench testing. Cabin door opens to reveal spacious interior. Kit contains all necessary materials and extras too numerous to mention.



25c

#### THE INSIDE IS OUTSIDE

### 3 VIEW PRE- VIEW FLYERS

You will be amazed to see what 25c buys in a CAPITOL 3-View Pre-View flying model. Each model is a gem of distinguished design—multi-stressed and multi-ribbed to produce sturdy, realistic, all balsa flyers. Each kit is packed in its own box with reduced facsimile of the 3-View plan right on the box. Capitol's distinguished design is evident before you even open the box. (Obtainable from your dealer. No Mail Order)

\$1.95

add 25c postage



FOR  
ATOM  
OR ANY  
"A" MOTOR

### PIPER CUB COUPE

This beautiful 40" gas model is again available. Perfect for Super ATOM—easily adapted for any class "A" engine. Kit is de luxe in every respect. Contains all necessary materials and many de luxe extras such as metal motor mounts, authentic CUB decals, etc. Outstanding plans with extra large photos and illustrations. Excellent, realistic flying characteristics.

**CAPITOL**

MODEL AIRCRAFT CO. (Dept. MA-1)  
2413 Atlantic Ave., Bkn. 33, N. Y.

Cellophane windows, shrunk by water, complete the job.

Now comes the fun and thrills of flying that you have worked for so long. Depending on the weight of the model and the prop, either 3/16" or 1/4" flat brown contest rubber should be made into a 14" loop, carefully lubricated and installed (using a dowel or piece of hardwood as rear hook). When ready to fly, select a breathless day, for even a small breeze can buffet such a light model and cause a crackup. The original Wisp "flew right off the drawing board" with no adjustments necessary, but different models may react differently.

First, adjust the weight until it balances at center of the wing chord or even slightly aft. (Most models should balance farther forward, but the design is such that this is not the case for the Wisp). Test the glide over a soft surface such as grass. If your model is built exactly, the wing will have 2° incidence and the stabilizer 1° and it will glide slowly and smoothly; however, you may have to add or subtract incidence until the glide is at its best. When this is done, never change the balance or incidence thereafter but vary the thrust line to improve the power flight. Slight right turn on the rudder may be needed to spiral the plane more and keep it from stalling. If down-thrust or side-thrust is still needed to perfect the climb, change and reglue the thrust button but don't ruin the glide by adding weight or changing incidence.

When your Wisp is fully adjusted, which is really an art in itself, fully wind the motor by hand or with a winder and enjoy a beautiful full length flight. All your hours spent working and perfecting details will be rewarded by many hours of enjoyment flying the little ship. If you are a beginner who longs for a simple model that he can build and make fly, take off, climb and soar all by himself, the Wisp is your plane. Good luck and lots of good flights!

### The Great Sopwith 'Camel'

(Continued from page 19)

luxuries he might still have had his model Camel; at least he would have had a complete set of photographs to remember it by. That smoke-screen gadget, which was actually successful to a certain extent, caused the model to burst into flames after one particularly beautiful takeoff. All the friendly Gremlins on the model flying field could do nothing and the model was destroyed even before the decorative checkerboard design was applied to the entire tailplane. Just build a good model, fly it in an orthodox manner, and you will avoid learning a lesson the hard way as the author did to his disgust.

The model shown wore skis throughout its short career and it performed spectacularly on snow and ice. Wheels can be easily fitted; however, if you have never had the experience of flying a model with ski gear here is one that will provide many thrills.

**FUSELAGE**—We begin by building the two sides of 3/32" square medium grade balsa. Note that this basic framework is shown on side and top views by the solid black construction. The two sides are joined together, first at the tail post, then working forward. Crossbraces of the same 3/32" square balsa are placed in like positions at top and bottom of fuselage. While this structure is drying, cut the side formers (two of each) from 1/32" sheet balsa and cement in their proper

(Turn to page 56)

# A New Engine!

(CLASS C)

# Howler

**NEW FULLY PATENTED PRINCIPLES**

**NEW FUEL EJECTION SYSTEM**

**No Carburetor — No Mixing Valve  
No Rotary Valve**

**New Design — New Rigidity  
New Alignment**

**ASTOUNDING PERFORMANCE**

• The cylinder of the HOWLER engine is formed in one piece with the bearing housing, thus providing the utmost in rigidity and maintaining permanent alignment. There is only one crankcase joint to make leakproof. This is the crankcase cover which carries no load. By eliminating joints and flanges between the cylinder (the power-producing part of the engine) and the bearing housing (the power-transmitting part of the engine) simplicity, rigidity and greater power are obtained for the entire life of the engine. Screws (with their stripping of threads) are eliminated and the entire assembly and dis-assembly are made easier and quicker.

Ball bearings at each end of the crankshaft provide the ultimate in free running and delivery of the greatest amount of power at the end of the crankshaft.

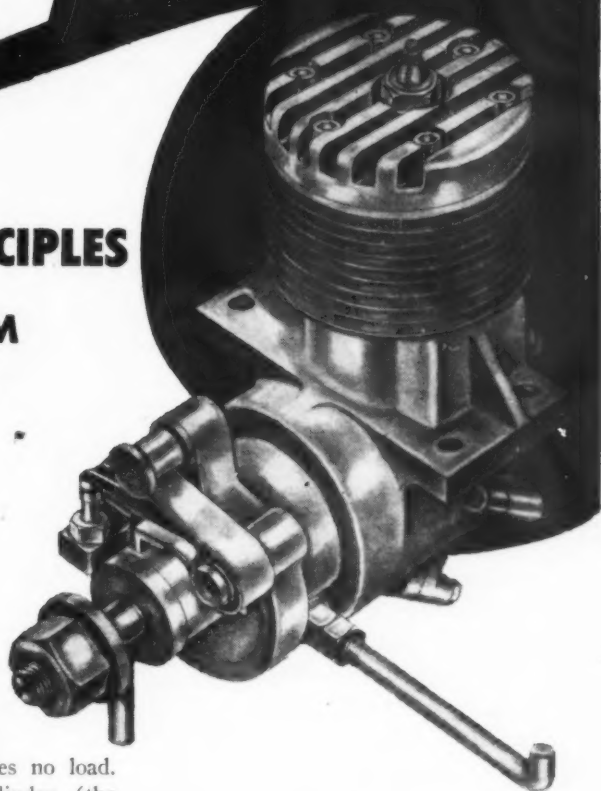
Husky parts of the finest alloys obtainable insure strength beyond need and heat flow characteristics exactly suited to the high power developed.

The fuel ejection system is a new conception of carburetion which far surpasses carburetors and pump injectors. Simple, efficient and effective. Helps to cool the engine.

**HISTORY AND RECORDS WILL BE MADE BY  
THE HOWLER ENGINE**

*Get your order in now! Delivery soon!*

Patents incorporated in the Howler Engine will be protected



**DEALERS, WRITE—  
Territory Appointments  
Being Made**

**BONE  
TOOL & GAUGE CO.**

**ENGINE DIVISION**

**9910 FREELAND  
DETROIT 27, MICH.**



**BACK  
JAN. 1<sup>ST</sup>**

**SMITH**  
*Ignition Coils*

Modelers can really start the new year right now, for the first peacetime orders of Smith coils are expected to arrive at your dealer's around January 1st.

They'll be the same hot spark coils as always with all the refinements that have made Smith the leader in model engine ignition.

**SMITH** *IGNITION COILS*

**NATHAN R. SMITH MFG. CO.**  
105 Pasadena Avenue  
SOUTH PASADENA, CALIF.

places. Cut formers 1, 2 and 3 from 1/16" sheet balsa and cement in place on top of the fuselage frame. Now, from 1/32" sheet balsa, cut formers 4, 5, 6 and 7; install in their proper places. All stringers on fuselage sides are of 1/16" x 1/4" hard balsa; stringers on fuselage top aft of the cockpit are 1/32" x 1/16" hard balsa; and the two short stringers which join formers 1 and 2 forward of cockpit are 3/32" square balsa. When all stringers are installed, sand the entire framework to make it as smooth as possible.

The author suggests that a strong grade of bond paper be employed to cover the space between 1 and 2 top formers as well as to form the cockpit. Using small pieces of 3/32" flat soft balsa, fill in the space on each side of fuselage where the wings connect with the fuselage at the lower longeron. This filling in has been noted on the plans as the Wing Support Gusset. With razor blade and sandpaper, work this support gusset down to where it blends in with the side formers and lower longerons. You will find that this makes a very rigid assembly to which the lower wings and the landing gear struts may be easily joined. Insert the rear motor hook of .004 music wire. From soft balsa carve the solid balsa block which fills the space between No. 1 former and the cowl on fuselage top; sand to a smooth shape, cement in place, and sand further so as to cause it to blend in with fuselage.

The fuselage framework is now complete; we need only the cowl to complete this unit. The cowl is formed of seven layers 1/8" medium grade sheet balsa. With a compass, mark the correct size circles and cut out with razor blade or scroll saw. (The radii can be easily determined from the cross sections shown in side view on Plate 1a.) Note that the third layer from the front is solid except for the small 1/4" diameter hole at center; note also the two smaller circular layers which form a base for the nose plug. When all cowl circles have been shaped, cement together by laminating and allow considerable drying time. When dry, carve and sand to the correct profile. Note that the cowl is irregular in shape on the bottom when viewed from the side. This irregularity allowed for the escape of the hot castor oil laden exhaust fumes of the Camel's rotary motor. The author chose to lighten his model by not including a detailed motor inside the cowl; this motor, if like that on the original ship, should revolve. However, if some of you wish to include a detailed motor, you should have no trouble finding details in old issues of this magazine. The cowl is cemented flush to the front of the framework; and with this operation finished our Camel fuselage is complete.

**EMPENAGE**—Both rudder and elevators are easily built directly over the plans on Plate 1b. In the interest of lightness, because this quality is most essential in flying scale models, the author recommends that tail surfaces be constructed of 1/16" flat medium weight balsa. Widths of the various members may be taken from the plans. The tail surfaces of First World War aircraft were generally speaking flat, the only deviation being the very thin trailing edge as shown in the cross section of the elevators. A thorough sanding with very fine sandpaper will do much to further a successful covering job.

**WINGS**—The only difference between upper and lower wing panels is shown on Plate 2 by means of dotted lines. To make a set of plans for the left wings, merely trace the right wing panel and

(Turn to page 58)

## NEW

### HI-COMPRESSION HEADS 10-1 RATIO

FOR

VIVELL ENGINES	\$1.95
PHANTOM BULLET	1.95
ATWOOD CHAMPION	2.95
SUPER CYCLONE	2.95

## GAS MODELS

### U-CONTROL

DREAMER	\$7.50
TIGER SHARK	4.95
SUPER-V-SHARK	4.95
BABY-V-SHARK	2.95
MISS BEHAVE	3.95
BABY MISS BEHAVE	2.65
BUZZ	8.95
TARPON	10.75

### FREE FLIGHT

Vagabond Class "C"	\$5.50
Piper Cub "A" or "B"	4.50
Aero Champ "A" or "B"	2.00
Megow Ranger "A" or "B"	2.50
Jersey Javelin "A" or "B"	3.95
Megow Wog "B"	4.95

## ACCESSORIES

Flex-O-Cable Control Lines  
4-Strand, Snap & Swivel Att.

Per 50 Ft.	\$3.45
Set 70 Ft.	3.45

### AERO SPARK COILS

Lt. Wt.	\$2.50
Quality	3.00

### AIR-O SPAR-KOIL

Lt. Wt.—1 1/4 oz.	\$2.50
-------------------	--------

### AIR-O STEEL ENGINE MOUNTS

Small—A or B	\$ .50
Large—C	.60

## GAS PROPS

X-CELL SPEED

8" Dia. 10" Pitch	<b>75<sup>c</sup></b> EA.
8" " 12" "	
8" " 14" "	
9" " 10" "	
9" " 12" "	
10" " 10" "	
10" " 10" "	
11" " 10" "	

### AIR-O FREE FLIGHT

A Consistent Winner

9" to 13" incl.	.50c each
-----------------	-----------

### X-CELL—3 BLADE

10" PITCH

8" TO 11" DIA. INCL.	\$3.95 EA.
----------------------	------------

Dealers write for discounts

**MORGAN MODEL SUPPLY CO.**

3473 Tweedy Blvd.,  
South Gate, Calif.

Pat Morrissey's



# ACE MODEL AIRPLANE CO.

3149 Shenandoah • ST. LOUIS 4, MO.

The Nation's Oldest Hobby House at "The Hub of the Universe"

Read the ads in Model Airplane News, then write or wire. WE HAVE IT IN STOCK. NO DELAYS.

## FALCON SPORTSTER



A winner . . . this U-Control Stunt plane . . . simple to build, easy to fly. Developed by Frank Greene, nationally known writer and designer. Everything included to build complete ship (except motor). 37" wing spread, fuselage length 20". Complete kit (less motor) . . . \$5.95  
By Mail \$6.20



## BLACK WIDOW

An all Balsa "Black Beauty" . . . NEW 1/4" scale solid model designed by Maircraft in cooperation with Northrup Aircraft's own engineers. Deluxe construction, complete master plans. . . \$3.95

### MILITARY VEHICLES

Half Track	\$1.50	Cavacraft Kit	.95
Scout Car	1.50	40 MM Anti-Aircraft Gun	2.95
Covered Wagon	1.50	105 MM Howitzer	1.00
Army Searchlight	1.00	Lady Jeep	2.50
Amphibian Truck	1.95	Stage Coach	1.50
Bulldozer	1.25	1 1/2 Ton Truck	1.25
Amphibian Jeep	.75	2 1/2 Ton Truck	1.25
Cavacraft P-40	1.75		

Add 25c Postage

### CLEVELAND SUPER DETAIL MODELS

Postage 15c per kit extra

#### OTHER CLEVELAND KITS

Vought Sikorsky F4U	\$3.50	Lockheed Hudson	7.50
Wildcat	3.00	Westland Whirlwind	3.50
P-43	3.00	Grumman Avenger	4.00
Mustang	3.00	Mosquito	4.50
Aracobra	3.00	B-17	12.50
Thunderbolt	4.00	B-25	8.50
P-38	3.50	B-26	8.50
Helldiver	3.00	A-20	8.50
Spirit	3.00	Albatross	3.50
Messerschmitt	3.00	Glider	3.50
Sukla	3.00		
Hurricane	3.00		

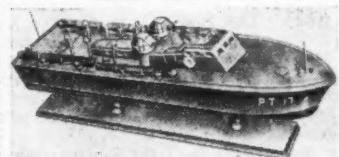
### WE'VE GOT IT!

Lark	\$3.75	Buccaneer 40	\$3.50
Coronet	2.50	Musketier 54	3.75
Varsity	3.75	Jiffy A	1.75
WOG	5.25	The Bee B	2.25
Brkin Dodger	4.25	Topper A	3.75
Playboy Jr. B	3.25	A-B	3.25
Pacer B	4.25	Piper Cub	4.75
Pacer C	5.25	Aero Champ	2.25
Playboy Sr.	4.75	Ranger	2.75

### TETHERED MODELS

Dreamer	\$7.50
Strato Cat	5.95
Strato Kitten	2.95
Cliffs Trainer	3.50
Tether Streak	12.50
Tarpon	8.95
Buzz	7.50
Knight Twister	4.95
Super V Shark	4.95
Baby Shark	4.95
Tiger Shark	1.25
All metal control handle	7.95
G-13 Biplane	2.65
Miss Behave	10.00
Baby Miss Behave	
Eroucpe	

Add 25c Postage

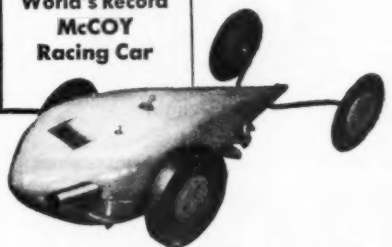


## PT MOSQUITO BOAT

Varney's Elec PT Boat	\$7.95	Ideal PT Boat	2.50
Marine PT Boat	5.00	All Star PT Boat	1.50
		Comet PT Boat	.65

Add 25c Postage

## World's Record McCoy Racing Car



Out in front in every race. Yes, the dream car of the fastest tracks . . . most completely streamlined racing car ever built. Designed and engineered by Dick McCoy. Complete with gas tank and wheels . . . just install your engine and be ready to win. Cast aluminum body, rubber tired wheels, built-in gas tank, ball bearing rear wheels, weight correctly balanced, accommodates any engine. \$42.50 less motor. By mail \$42.75.



## FALCON SPEEDSTER

U-Control Class B or C Gas Model with full 25" wing spread. All Balsa. Easy to construct with completely detailed plans. Complete Kit (less motor) . . . \$5.95  
By mail \$6.20



## CONTROLINER . . . NEW!

Sensational! Engine speed, wing flaps, elevators, all controlled. Wire landing struts, veneer wings, shear pin motor mount. Complete . . . By mail, add 25c. \$5.95

SEND IN YOUR ORDERS FOR MOTORS. WE WILL HAVE THEM ALL AND PARTS FOR ALL.



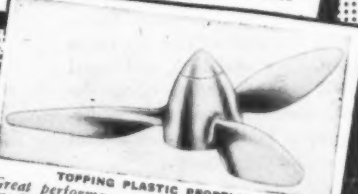
**NEW TOPPING 2100 Control Line Sensation**  
Beautifully contoured aluminum completely formed for speedy assembly . . . \$10.00  
By mail \$10.25



**X-ACTO**  
No. 1 For light delicate work. With 1 blade 50c  
No. 2 For heavy carving. With 1 blade 50c  
No. 52 Two handles, all 12 blades . . . \$2.00  
No. 82 Fitted wooden chest, 3 handles, 12 blades, \$3.50. No. 83 De Luxe Xacto, \$5.00  
**A NEW COMMANDO GLIDER 42"**  
WACO-CG-4A Glider. All balsa. Movable controls of ship. Pair of skin attaches to wheels for snow flight. Complete kit. \$1.25  
Combination Offer:  
1 Commando Glider . . . \$1.25  
1 Bottle Military Dab Dope . . . 35c. Add for \$1.50 Plus Postage



**WEST-CRAFT Super JEEP!**  
FULL 1" SCALE. (11" model). All parts preformed. Finish in 1 or 2 evenings. Amazing realism. Full tread plastic wheels. Formed metal grab irons. Rigid X-Frame chassis, springs, etc. Over 100 wood and lute board parts  
By Mail \$2.75  
\$2.50



**TOPPING PLASTIC PROPELLER**  
Great performer with class C control line and free-flight models. 1-piece, 3 blade. Prop and Spinner with removable nose cap for easy attachment to engine. Precision molded of toughest plastic known. Assorted bright colors, high gloss finish. . . \$1.50  
By mail \$1.65



**B-29 SUPER FORTRESS**  
SOLID SCALE MODEL  
No Carving. Fully Shaped. Ready to assemble. Detailed. Includes beautiful model. Instructions and assembly drawings.  
Testor's  
B-29  
\$2.00  
By mail \$2.15

# FALCON ALL STARS

the *Sportster* ★ STUNT PLANE

**COMPLETE KIT**  
**\$5.95**

(LESS MOTOR! POSTAGE 25c)

Everything to build a Complete Ship which will Win Contests for you



**New 50c Lockhead Shooting Star**

the *Speedster* ★

**SPEED PLANE Complete Kit \$5.95**

Less Motor (Postage 25c)

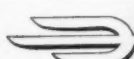
**Built For High Speed**

the *Cadet* ★  
**DESIGNED For Class B Gas Engines**



**Complete (dry) Kit \$5.95**  
LESS MOTOR Add POSTAGE 25c

★ Produced Under Jim Walker's U-Control Patent No. 229241C



**FALCON**  
MODEL AIRPLANE COMPANY

1949 Market St., Long Beach, Calif.

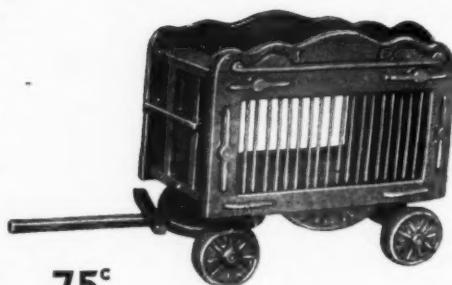
1949 Market Street, Long Beach, California

..... See Page 77 for Special Offer—5 Books that Will Delight Any Modeler at CHRISTMAS!

**NEW! DIFFERENT! It's the**

## CAGE WAGON!

Newest thing for hobby builders! Bathgate HO Gauge Circus Wagon with sturdy cast metal sides. Shows fancy scroll work of real life circus wagon. Tiny steel bars, cast metal wheels with sparkling circus designs, movable front axle undergear, balsa body, plenty of cement and bright red lacquer.



**75c**

**ALSO AVAILABLE NOW:**

Open End Railroad Coach	
Personnel Cars.....	\$3.00
Circus Coach Personnel Cars	3.00
Baggage Wagon Kit.....	.75
Pole Wagon Kit.....	.75
Water Wagon Kit.....	1.00
Circus Flat Cars.....	2.00

Why not start now on YOUR Circus Wagon collection?

- ★ COMPLETE STOCKS
- ★ FASTER SHIPMENTS
- ★ CENTRAL LOCATION

**WHOLESALE ONLY**



invert your tracing. The wings are best constructed of medium grade balsa; directly over the plans, the dimensions are noted on the plans with the exception of the tips which are made from 1/16" flat scraps. The author recommends straight grained pine be used for the wing spars; this adds strength to the very thin wing section. Note that two small center section strut supports are installed in the top wing panels flush with the bottom surface of wing. Be certain that you install the two small gussets at the root ribs of each panel.

The center section is also constructed directly over the plans. The ribs are cut from 1/16" sheet balsa as are the main ribs; three are needed. When all wing panels have been constructed, carve leading and trailing edges to the proper cross sections shown on the rib pattern. Some builders may prefer to shape these parts before they have been cemented to the wing structure; however the author prefers to shape them, after assembly, with a razor blade. When all panels are complete, sand entire structure with fine sandpaper. Most dime stores sell a number of small "emery boards" of the type used by women on their finger nails; you will find these of great use in sanding the completed frames and in preparing them for a smooth covering.

**STRUTS**—The patterns for the landing gear struts, landing gear spreader bar, and the center section struts are found on Plate 2. The interplane struts can be measured directly from the side view on Plate 1 (since interplane struts are installed vertically, there is no distortion). All struts are cut from 1/8" x 5/16" hard balsa and are streamlined, sanded and clear doped. The spreader bar is made from medium balsa and is 3/16" thick and 11/16" wide. The two 1/8" square pine axle supports are cemented firmly in notches. Streamline the spreader bar as shown and sand well, then follow with a good coat of clear dope.

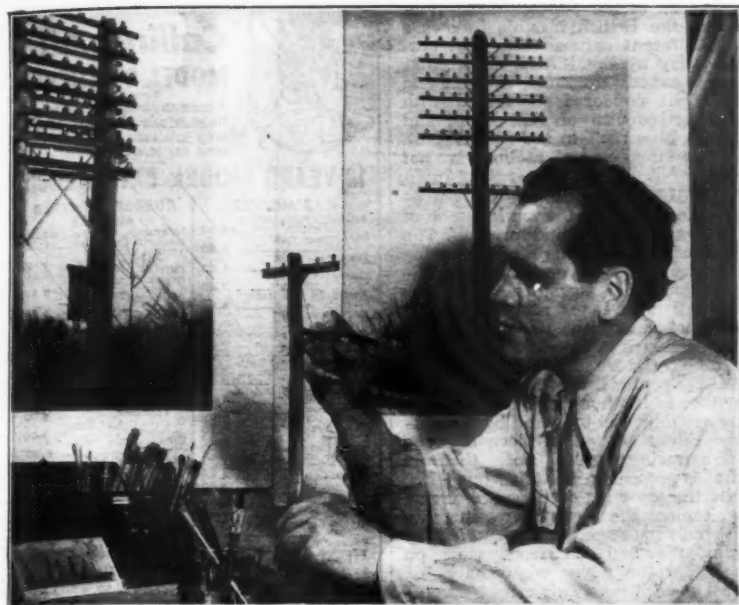
Realism can now be added to these struts by color, doping them with a brown dope. This will resemble the struts of early combat planes. Likewise, doping the struts before assembling will aid in securing a neat model; doping struts in the vicinity of a good covering job is not conducive to neatness.

**COVERING and DOPING**—Because most First War Camels were of rather dull coloring, the author suggests a khaki or olive drab colored tissue be used. This will give a desirable color, and at the same time will tend to hold down the weight of the finished model. Covering should always be done with the grain of the tissue running the long way of the part being covered. Because of the concave shape of the undersurface of the wings the tissue adhesive should be applied to each rib. One piece of tissue can be used for each side of each wing panel with the exception of the tips which should be covered with a small separate piece. The fuselage is covered with a series of small pieces, and the tail surfaces can easily be covered with one piece to each side. Be certain the covering is neatly cemented around leading and trailing edges, etc., so as to leave no part exposed.

Because of the light construction of the tail surfaces, merely spray lightly with water and watch for signs of warpage. The wings are also sprayed with water, as is the fuselage, and when dry may be clear doped with a very thin coat. Insignias are best applied before assembling, and may either be painted on by hand or

(Turn to page 60)





## "IT'S A SWELL LITTLE KIT!" says Saturday Evening Post cover artist

### Dohanos Uses X-acto Knives for His Work and for His Hobby

Of course you, and several million other Americans know and admire the handsome covers which Stevan Dohanos does for the Saturday Evening Post. But we bet not many of you knew before that lots of those scenes Mr. Dohanos paints are constructed in miniature first with the aid of his trusty X-acto Knife!

Mr. Dohanos has a talent for seeing beauty in the commonplace things around him. His special hobby is glorifying such simple objects as fire-plugs, telephone poles, and other characteristic ingredients of the American landscape.

Often (note the photograph above) Mr. Dohanos' hand-carved miniatures serve as subjects for his easel paintings. And this is where his X-acto Knives come in so handy, he says. They're sharp and easy-cutting, with

plenty of just-right blades for intricate detail work.

"I've used X-acto for years," says Stevan Dohanos, "for work and for fun. It's a swell little kit!"

### Make Your Own Fun These Booklets Tell You How



It's fun to make things yourself. And so easy with scalpel-sharp X-acto. Send for these two helpful booklets and enjoy the long winter evenings at home!

- (1) How to Make Scale Model Planes
- (2) Whittler's Handbook with patterns

Profusely illustrated. 32 pages. 10¢ each. Write direct to X-acto, at the address given below.



# X-acto<sup>\*</sup> KNIVES & TOOLS

X-acto Knives & Knife Chests From 50c to \$5.00

Buy where you see this sign. At better hardware, hobby and gift shops  
—or if not available write direct to

X-acto Crescent Products Co., Inc., 440 Fourth Avenue, New York 16, N. Y.

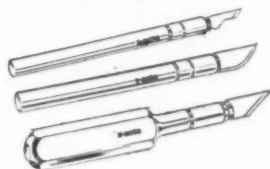
\*Reg. U.S. Pat. Off.

## ONLY X-ACTO KNIVES HAVE ALL THESE IMPORTANT ADVANTAGES

FIRST CHOICE of experts in hobbycraft and art fields. Indispensable tool for modelmaker's workshop.



10 BLADE SHAPES, interchangeable. All of scalpel-sharp surgical steel. A blade for every type of cutting job.



3 HANDLE STYLES, of solid duraluminum construction. Designed for safety, firm grip, precise control.



INGENIOUS COLLET DEVICE locks in blades securely, so they can't fold under on curves or heavy cuts.



CHANGE BLADES in about 5 seconds. A twist, a twirl, and there! X-acto's always sharp, always ready.



KNIFE OF MYRIAD USES. Cuts paper, leather, wood or plastics easily. Ideal for modelmakers, artists, photographers, wood carvers, taxidermists. New uses every day.

# Hobby King HAS EVERYTHING!



Here are just a few of our most popular items. But Hobby King can supply you with anything advertised in this magazine—at regular prices. All stock items shipped same day order received.

## SPECIAL COMPLETE GAS MODEL

Stanzel Interceptor B free flight plane, flight kit, Hurricane motor (or Ohlsen "23" if available), all accessories, Penlight end-to-end battery box, X-Acto knife, two real rubber wheels, propeller—everything you need for a swell gas model, including dope and cement, postpaid.....**\$29.50**

### FREE FLIGHT GAS KITS

Buccaneer B Special.....	\$ 3.95
Buccaneer 48 B.....	3.50
Playboy Str. C.....	4.95
Yogi B (pusher).....	3.95
Megaw Piper Cub C.....	4.50

### CONTROL LINE GAS KITS

P-47 Controller.....	\$ 5.95
Super V Shark B-C.....	4.95
G-13 Biplane B-C.....	7.95
Falcon Sportster B-C.....	5.95
Dreamer—flight control.....	7.50
Strat-O-Cat C.....	9.95
Tarpon.....	10.75

**MOTORS** Always some in stock. All advertised motors on order. To make sure of early (if not immediate) delivery, send for yours now!

Herkimer OK "60" C&C.....	\$24.00
Hurricane "24" C&C.....	24.95
Super Scrapper C&C.....	18.50
Ohlsen & Rice "23".....	16.50
Ohlsen & Rice "60".....	18.50

### ALL BALSA FLYING MODELS

Buffalo.....	\$ 3.00	Mustang.....	\$ 1.00
B-17.....	12.50	Thunderbolt.....	1.00
Black Widow.....	1.50	Cadet.....	1.50
Flying Wing.....	1.25	Helicopters.....	3.50
Gull.....	1.25	Piper Cub.....	.65

**SOLIDS** Black Widow, 1/4" scale—a big solid of a swell plane, easily shaped.....\$3.95  
Hurricane—Brewster Buccaneer—Stuka—Corsair—Focke-Wulf—Mustang P-51—Thunderbolt—Helicat—Luscombe......50  
B-25—Mosquito—Lightning—Helicat—Thunderbolt—Corsair—Mustang—Typhoon—Jap Zero (each sculptured)..... 1.25  
Mustang—Helicat—Thunderbolt—Corsair—Mosquito—Marauder—Havoc (each sculptured)..... 3.00



### JEEPS, TRUCKS and BOATS—

Army Truck.....	\$ 1.25
Army Jeep.....	.60
Famous scale model Weasel.....	2.95
All Star Sail King.....	2.00
Station Wagon.....	1.25
37 MM Anti-Tank Gun.....	.40
Amphibian Jeep.....	1.95

Balsa, dopes, and supplies always available. Railroad models and supplies coming in fast. Write for list and prices.

### IMMEDIATE SHIPMENT—POSTAGE PAID

Minimum order—\$1.00, plus 15c for special packing. We pay postage 20c packing charge on all orders of \$2.00 and over. Send cash (by registered mail), money order, or certified check.

**FREE CATALOG** (condensed listing) sent on request. Sign and mail coupon below...now.



# Hobby King

118 South Main Street  
South Bend 3, Indiana

Name.....  
Address.....  
City..... State.....  
Am interested in.....

they may be of the popular decal type. Note that the British insignia follows a slightly different pattern from that employed today by the R.A.F.; all circular insignia is exactly the same, top, side and bottom. The rudder is decorated with vertical stripes also of red, white and blue, with blue next to the rudder post. Note that the center section is not covered.

**ASSEMBLY**—First cement the elevators in place on top of the top longeron at rear of fuselage just behind former 7. The rudder is cemented in place flush with the rear vertical fuselage members and directly on top of the elevators. Take care that the tail surfaces are properly aligned and that neither positive nor negative incidence is present in the elevator. By the same token the rudder should exactly parallel the center line of fuselage, bending neither to left nor right.

Now assemble the top wing by cementing the center section in place between the two main panels. Note that no dihedral is present in the top wing.

While the top wing sections are drying firmly, cement the lower wings in place against the wing support gusset. Note by checking the half-size front view on Plate 2 that the lower wings have 3/4" dihedral at each tip. This can be accomplished easily by blocking in place with small boxes or dope bottles.

Install center section struts in their proper place directly on top of the top longerons. It will probably be necessary at this point to cut small notches in the bond paper and balsa fill to accommodate the struts. Once installed, using plenty of cement, and at the proper angle (check angle of installation by holding the top wing assembly in place), these struts will form a firm support.

When center section struts have dried securely, cement top wing in place. Note that all strut positions have been indicated on Plate 2 wing plans with small circles. The interplane struts are next installed. It will be advisable to cut away a very tiny portion of covering at the point where all struts join the wings; a much sturdier joint can be accomplished when cementing to the bare balsa.

The landing gear is now cemented in position. When each strut is securely in place insert the spreader bar and cement firmly. It will be necessary to slightly force the struts apart to permit entry of spreader bar. Since all struts are colored the wheels can be installed. The author recommends that the axles be 1 1/4" lengths of .004 music wire. Force cement into the drilled holes in the 1/8" square pine axle supports and cement the music wire in place. Wheels may be purchased or they may be built of laminations of 1/8" sheet balsa. In any event they should be equipped with a small washer on each side. Wheels are installed on the axles which are bent upward on the end. The author recommends the bent-up axle; should you desire to make use of the ski gear the wheels are readily exchanged by merely unbending the axle and slipping on the skis. The tail skid is made of pine, glued in place.

With the addition of a nose plug and a propeller carved from the illustrated blank shown half-size on Plate 1a, we find that our Camel is indeed nearing completion.

**DETAILS and FINISHING**—Such details as machine guns and gun sight are made of balsa, doped a dull black and cemented in place. The wind screen is cut from sheet celluloid. The bracing wires are realistic and can be added by

(Turn to page 62)



## Calling All MODEL BUILDERS!

A Mail Order Service for Model Builders and Hobbyists. Every order gets super service, shipped same day received.

### 19 YEARS MODEL EXPERIENCE

#### GAS MODELS

*P-47 Thunderbolt Controller.....	\$3.95
Musketier "42".....	2.80
"A".....	3.50
Buccaneer "36".....	1.50
Buccaneer "48".....	3.50
"A" or "B".....	2.25
American Ace "36".....	1.50
Buccaneer "42".....	6.95
"Special" "42".....	6.95
Buccaneer "Stand-ard".....	3.95
Skyrocket "A".....	2.25
American Ace "54".....	3.95
Brigadier "B".....	2.95
Musketier "Stand-ard".....	4.95
Buccaneer "B".....	3.95
"Special" "B" or "C".....	2.95
The Larkyer "B".....	3.50
Coronet "A" or "B".....	2.50
Aero Champ "A".....	2.25
Ranger "A" or "B".....	2.50
Wing "B".....	2.50
Piper Cub "B".....	4.50
Topper "A".....	3.95
Javelin "A".....	3.95
"B".....	3.95
Pacer "B".....	3.95
Strato Spear "A" or "B".....	2.95
Pacer "B".....	3.95
Tarpon "B" or "C".....	12.00
"Tether" "Streak".....	3.50
"Playboy Senior".....	4.50
"Playboy Junior".....	2.50
Streak "Streak".....	2.50
Falcon Speedster.....	5.95
Falcon Sportster.....	5.95
Bee "B".....	1.95
Wing "B" Dodger.....	3.95
Rockeater "A".....	2.95
Super Yogi "A" or "B".....	3.95
Dreamer "A".....	7.50
"C".....	9.50
Yankee "The Interceptor" "A" or "B".....	2.95
Super "V" Shark.....	4.95
B-17 "A" or "C".....	4.95
Super "V" Shark.....	4.95
"A" or "B".....	3.95
The Tiger Shark.....	4.95
Bug "A" or "C".....	17.50
Vee Gee "A" or "B".....	10.00
Sting Ray "B" or "C".....	4.75
Ereopu "C".....	12.50

#### GLIDERS

Super-Sinbad 62".....	\$2.50
Sinbad The Sailor.....	1.00
Imperial 72".....	1.00
Zenith 31 1/2".....	1.00
Thermic 70".....	3.50
Thermic "C" 36".....	3.50
Trooper 36".....	.65
Thermic 30".....	.35
Thermic 50".....	1.00
Skyhawk 30".....	1.00
Condor 54".....	1.00
Albatross Soarer.....	3.50
"Eagle" Secondary.....	1.00
Glider 48".....	.80

#### MOTORS

The Rocket Class "C".....	\$2.50
460 cu. in. less coil.....	3.50
460 cu. in. less coil.....	3.50
Vivall "35" Class "B".....	3.50
or "C".....	3.50
less coil & condenser.....	18.00
Super Scrapper Class "B".....	3.50
390 cu. in. condenser metal.....	18.50
Hurricane Class "B".....	24.95
24 cu. in. with coil.....	24.95
Merlin Super "B".....	24.95
Class "B".....	21.50
O.K. Super 60, Class C.....	24.00
60 cu. in. complete with coil, condenser.....	24.00
Other motors as they become available. Inquiries invited.	

#### RUBBER POWERED MODELS

Interstate Cadet.....	\$1.50
Rearwin Cloudster.....	1.50
Vought Sikorsky.....	1.50
Conquest.....	3.50
Curtis "Warhawk".....	3.50
Republic "Thunder-bolt".....	3.50
Grunman "Avenger".....	3.50
Grunman Wildcat.....	3.50
FAP-4.....	1.50
Grunman Helicat.....	1.50
POF.....	1.00
North America.....	1.00
Mustang P-51.....	1.00
Republic Thunderbolt.....	1.00
Flying Wing.....	1.25
Lockheed P-38.....	4.00
Lightning.....	3.00
Curtis P-40.....	3.00
Supermarine "Spit-fire".....	3.00
Focke-Wulf 190.....	3.00
Jap "Zero".....	3.00
North American B-25 "Mitchell" Bomb-er.....	8.50
Martin B-26.....	8.50
Douglas "Bost-on" and "Havoc".....	8.50
Yonkers.....	8.50
Taylorcraft 30".....	.85
Super Fortress B-29.....	1.00
Monocoupe 90-A.....	1.00
Ereopu.....	1.00
Skyracer.....	1.00

#### SOLID MODELS

Italian "Macchi".....	.50
Bell P-39 Airacobra.....	.50
Lockheed P-38 Light-ning.....	1.25
De Havilland "Mos-quito".....	1.25
Northrop P-61 Night-Fighter.....	3.95
Russian Mosca.....	.35
Spad 13.....	.35
Fokker D-7.....	.35
Grunman Avenger.....	3.00
TBF.....	3.00
Vought Corsair.....	3.00
Curtis Warhawk.....	2.50
Consolidated Libera-tor.....	2.50
Flying Fortress.....	17.50
De Havilland Mos-quito.....	4.50
Zero Fighter.....	.80
Hawker Tempest.....	.80
Super Fortress B-29.....	.75
Focke-Wulf 190.....	.75
Thunderbolt P-47.....	.75
Super Fortress B-29.....	2.50
Helidiver SB2-C1.....	1.50
Helicat 60".....	3.00
Thunderbolt.....	3.00
Mustang P-51.....	3.00
Lightning.....	3.00
booms and fuse-lage.....	3.00

#### SHIP MODELS

Queen Mary.....	\$7.50
H.M.S. Bounty.....	7.50
Canadian Corvette.....	17.50
Sub Chaser.....	9.00
Virginia Privateer.....	9.00
Slaver.....	7.00
America.....	7.00
Super Clipper P.T. 10.....	7.95

#### SUPPLIES

Hillcrest Timer.....	\$1.25
Super-Aero Coil.....	3.50
New "Wilco" coil.....	1.95
Spark Plugs Cham-ber.....	1.00
Type "V1".....	.50
V2, V3.....	.50
Condenser metal.....	.35
Alligator clips per set.....	.20
Toggle switch.....	.45
Torgie Switch light-weight.....	.35
Austin Timer.....	1.50
Aero-Quality coil.....	3.00
Battery 4-Volt.....	3.50
Power Plus Wet cell.....	2.75
Sponge Rubber Wheels.....	.40
2 1/2" pr.....	.80
3 1/2" pr.....	.80

#### HOW TO ORDER

Remit by P.O. or express money order, add 15c for postage on orders up to \$1.50, orders over \$1.50 to \$4 add 10c. Orders over \$4 sent postpaid in U.S. Canadian orders add 15c for postage. No C.O.D.'s. Minimum order 50c.

Send 25c (includes refund coupon) for 68 page 8 1/2 x 11 profusely illustrated master model airplane and gas model catalogue, listing rubber powered models, gas models, gas engines, gliders solid models, supplies, tools and ship models. Write us your requirements—we carry complete stock of all nationally advertised model products for immediate delivery.

#### RETAIL MAIL ORDERS ONLY



## GENERAL MODEL CRAFT CO.

Owned and operated by active designer with 19 years model experience.

91-17 173rd St.  
Jamaica 3, New York



## **We're only human . . . we like to repeat the unusual things we hear about *CANNON***

For over three years we have been receiving letters that have, indeed, been flattering. Naturally, we are impressed and grateful that our product has been so well received. We are getting a vast amount of personal satisfaction for a job well done.

We had no idea that others would come to us with praise expressed in such terms as "finest," "amazing," "remarkable," "simple but powerful," "outpulls any motor in its class."

But that is exactly what happened and we know from experience that Cannon merited all of those flattering terms.

The Cannon Engine starts easily, has maximum thermal efficiency and develops the greatest horsepower per cubic inch displacement. At the same time displays remarkable ability to stand up under severest usage.

### **300**

(For Class B)

.750 Bore; .676 Stroke.  
Displacement .299 cu.  
in.; Wt. 6 1/2 oz.; 5000  
r.p.m. With (recom-  
mended) 14" prop.  
Complete with Plug,  
Coil and Condenser.

**\$19.75**

If you haven't seen this new engine, visit your dealer. He will be glad to show you its many advanced features. The Cannon Manufacturing Company, 1878 East 18th St., Cleveland 14, Ohio

### **358**

(For Class C)

.750 Bore; .812 Stroke.  
Displacement .358 cu.  
in.; Wt. 6 1/2 oz.; 5500  
r.p.m. With (recom-  
mended) 14" prop.  
Complete with Plug,  
Coil and Condenser.

**\$21.50**

# **CANNON**

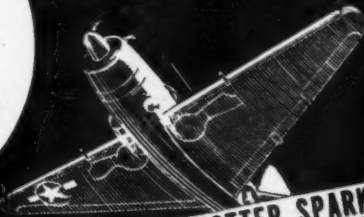
**THE MOTOR THAT LED THE FIELD WHEN WAR STOPPED PRODUCTION**



# Now Better Than Ever!



## AERO SUPER COILS



Lightweight Coil, 1 1/4 oz., \$2.50. Quality Coil, 1 1/4 oz., \$3.00. Metal Case Condensers, 25c.

THE superior engineering of Aero pre-war ignition equipment for model engines won for Aero the U. S. contracts for electrically ignited flame throwers. Our making and testing of thousands of coils to U. S. specifications and resulting improvement of our facilities now brings you spark coils of the best.

Aero-Spark Coils give steady ignition beyond 20,000 rpm, lightning starts, low battery drain, (they will fly and race planes on cells ordinarily discarded), the lightest coil made—1 1/4 oz.

### AERO-SPARK COMPANY

HICKSVILLE, L. I., N. Y.

# Megow's CONTROL-LINE WIRE!



140 ft. 75c  
(Postage 10c extra)

.014 gauge Piano Wire, spooled for convenience and economy. Sturdy spool helps to prevent tangling and keeps wire in good condition when not in use. . . . Two 70-foot lengths spooled in parallel, 140 feet in all. See it at your dealer's, or order direct from us.

Use  
Coupon

MEGOW, HOWARD & OXFORD STS.  
PHILADELPHIA 22, PA.

Money order enclosed for \_\_\_\_\_ for which please  
send \_\_\_\_\_ Spools Megow CONTROL-LINE WIRE @ 75c each. (Postage  
10c extra)

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

threading a needle with a good quality light gray thread and sewing in place. If you desire the wires to be visible in photographs it will be best to use black thread. Indicate control surfaces by thin strips of black tissue or by india ink. Note also the small control horns on the wings; these can be added with scrap balsa and cemented in place on the same rib as are the interplane struts. Note that ailerons are present on both top and bottom wings, and that they are connected with (and actuated in part by) a brace wire. Do not overlook the brace wires on the tail surfaces. All brace wires are clearly indicated on the plans by dot-dash lines.

With these details added, all that remains is to color dope the cowl after making certain it is smooth as silk. The author used red dope on his *Camel's* cowl but any bright color will be attractive. The wheel centers should be color doped also, and the tires doped a dull black.

Now your model is finished; should you desire, when the snows come, to have a bit of rare sport just construct the skis shown half-size in the box on Plate 1a. Bamboo strips are used for the skis; the bamboo should be about 1/32" thick and 1/2" wide. A small candle is utilized for making the bend in the skis. Bamboo held near the flame bends easily. Balsa wood is used to form the streamline base, and a small hole with bushings should be in the base. The tiny hooks on both the skis and the landing gear struts are made of a small gauge music wire for the purpose of holding rubberbands which function as shock cords for the ski gear. Try this system and you'll be delighted with the results. Believe it or not, *Camels* were used on the Eastern Front both before and after Russia bowed out of the first war, so it is safe to assume that *Camels* did see some use on skis.

Your model, if built according to plans, should balance with very little additional weight in either nose or tail. Three or four loops of 1/8" flat rubber (well lubricated with a mixture of glycerine and green soap) should be sufficient to give excellent R.O.G. flights.

Above all, work with care, and follow your plans. If you do you'll have an authentic scale model of one of the most famous planes ever to carry the insignia of the R.A.F. The author hopes to present plans and data for the Fokker Triplane, one of the *Camel's* most famous opponents, in the near future.

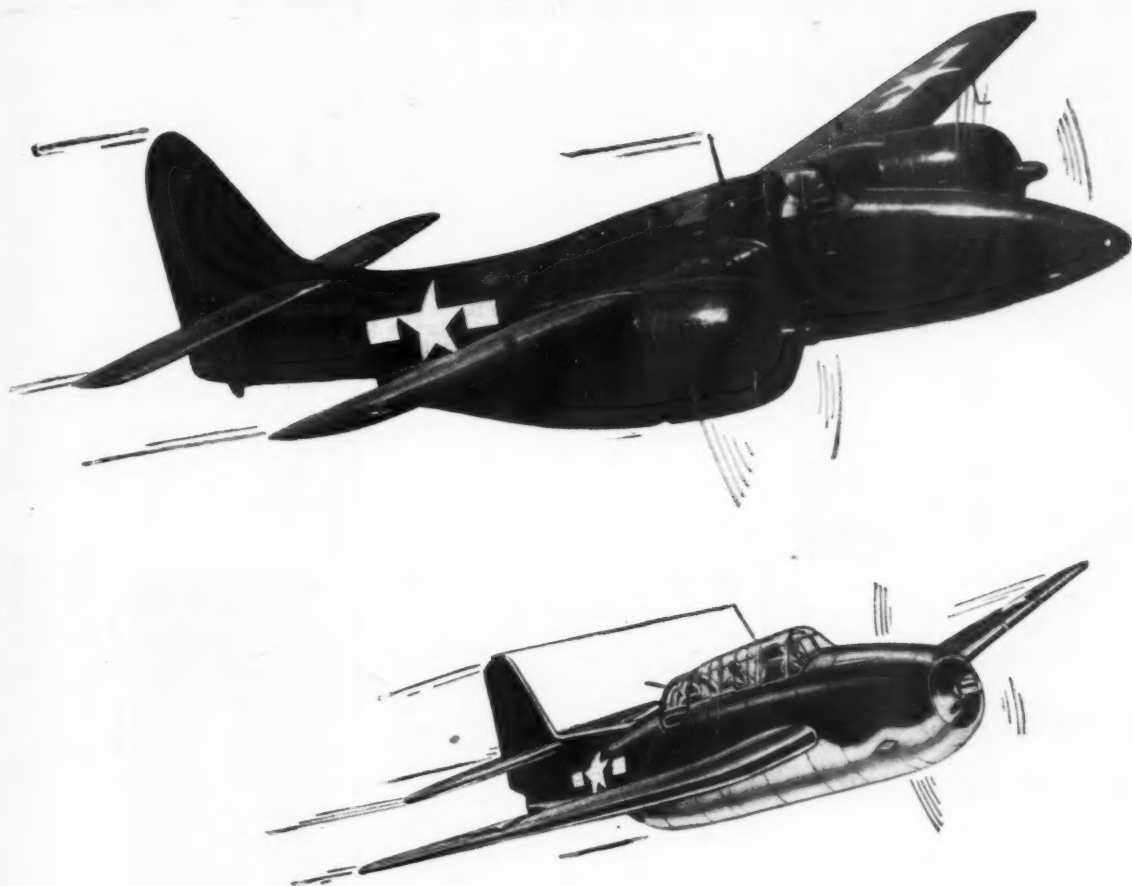
## Newsletter

(Continued from page 12)

The card would contain merely the make of engine, motor number, date of sale, place, contracting parties, AMA number of purchaser if any, and so on. Purchaser would then drop card in mailbox so it would bear cancellation stamp date confirming sales date. It would already be addressed to some central clearing house, such as the AMA, where it would go on file as public information.

A system such as this put into wide control might do a great deal toward cutting down thefts and discouraging contest snatchers from making off with out-of-sight engines.

Does it all sound too simple? Any and all suggestions on the subject would be most appreciated by interested groups such as the Academy, the model manufacturers, and contest directors. Why not send any ideas you may have on the deal to the Academy in Washington. You know the address? AMA, 1025 Connecticut Ave., Washington 6, D.C.



# NEW! and on the Beam...

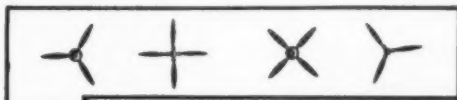
## MORE PERFECT DETAIL THAN EVER BEFORE

**NEW TIGERCAT SOLID, 13" Kit scaled 1/4" to the foot.** Here's all you need for a "bang-up evening of fun" . . . plus a *dream model* that'll be the envy of your friends! Hawk's Tigercat is accurately profiled . . . many pieces *both* ways. Transparent cockpit covers, beautifully accurate up-to-the-minute plastic propellers, decals, NEW metal bucket seats. Large fully detailed scale view plans together with "exploded" assembly view. Photographic material too. \$1.50 at all dealers.

**NEW GRUMMAN AVENGER, 13 1/2" Kit, scaled 1/4" to the foot.** Here's another brand new hit by Hawk that's the last word in solids. This famous and deadly ship-board torpedo plane is scaled to perfection in this great kit. Profiled parts, completely formed accessories including beautiful plastic propellers,

transparent "greenhouses", metal bucket seats, decals, etc. Same fine plans and instructions, including "exploded" view, as Tigercat. \$1.00 at all dealers.

**HAWK "Super Realism" Accessories!** See your dealer for Hawk up-to-the-minute 3 and 4 blade plastic propellers of all types . . . perfect in every detail. Also new punched metal bucket seats, cast landing gears, etc.

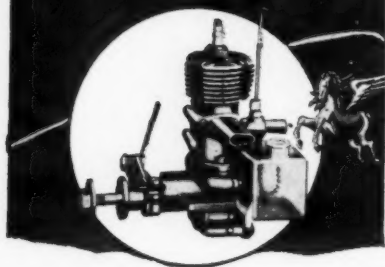


Sold  
through  
Jobbers  
and  
Dealers  
Only

# HAWK

HAWK MODEL • 4314 N. California • Chicago 18

# The DENNYMITE AIRSTREAM



## Dependable Flying HORSEPOWER at Your Command

A flash to start—eager, impatient to be away—that's the new, advanced DennyMite model engine. The new DennyMite is 'way out ahead... in reliable performance... in stamina... in power. When you really want to make a good showing—at your next important model plane, boat or car meet—put DennyMite Flying Horsepower to work for you. Give your best model the power-plant worthy of it. You will find DennyMite at your favorite dealer

### SPECIFICATIONS

Bore and Stroke	.9 in.
Displacement	.57 cu. in. (Class "C")
Horsepower	.25 hp at 6500 rpm
Max. Speed Range	1,000 to 15,000 rpm
Engine Weight	9.5 oz.
Tank Capacity	1/3 oz.

**DENNYMITE OWNERS...** Send your engine in NOW for PRECISION overhaul. Complete stock of replacement parts on hand.

MANUFACTURED BY



Pacific Airmotive Corporation  
Manufacturing Division  
North Hollywood, California

## Plane on the Cover

(Continued from page 22)

about 50° and approximately 20 ft. from the ground, flying about 50 mph. Fortunately he was uninjured, but the plane was seriously damaged.

In the months that followed Spence constructed a flyingboat of more advanced design. In this, a 3 in 1 control type, the rudder was operated via the wheel, and the throttle by foot accelerator. Shortly after, Spence established the country's first air jitney service with regularly scheduled trips between Wethersfield and East Hartford, Conn. When the jitney had outlived its usefulness the motor was given to the Roosevelt Field Museum at Garden City, L.I. where it is on exhibition today.

Up through the years Spence has been constantly in contact with amphibians. But it was not until 1931, while working as a test pilot for the Ireland Aircraft Co., that he conceived of a single engined plane which, if basically correct, would have the desirable characteristics for operation on land, water and in the air. After several years of experimenting with various models, he perfected the design for the prototype of what is now known as the *Seabee*.

His first thought was to place the propeller down and behind the cabin, in contrast to the then current practice of placing the power plant up above the wings. This drew the engine or nacelle out of the air stream thereby reducing drag and eliminating exposed engine nacelle. The location of Spence's propeller also made possible enormously increased visibility and improved flying comfort by reducing noise and doing away with exhaust fumes coming back to the cabin. He introduced the "nose door," a feature of the *Seabee* which simplifies loading from water, beach or dock.

"The original design," says Spence, "was a desperate effort to eliminate faults in other amphibians—and this effort dictated my plans for the *Seabee*."

That Spence has succeeded magnificently is now a matter of record, for flying time of both the prototype and present model have proved the soundness of his basic design.

In ironing out the mechanical kinks of Spence's design, experts of Republic have done a sound engineering job. Out of the refinements worked into the prototype—which has been flown hundreds of hours by an endless procession of famous army, navy and civilian visitors to Republic—has come the further perfected production model soon to be released.

Equipped with a Franklin 212 hp engine, the amphibian's high speed is 120 mph; cruising speed, 102 mph; landing speed 55 mph and rate of climb 700 ft. the first minute. Maximum cruising range is 520 miles. The *Seabee's* gross weight is 3000 lbs. and complete wing area, 196 sq. ft.; maximum span is 37'8"; length, 28 ft. and height, 9'4" at the tail. Cabin widths are 46" and 50", both measurements inside.

General construction characteristics include all metal beaded wing skins of three spar construction. Ailerons covered with beaded skin are a three piece assembly. Flaps are of the same construction as the ailerons with beaded skin and one spar, and a formed leading edge with three ribs. The cabin, of the automotive type, has its side panels formed of dishpan inner units and skins spot welded to the pans to provide a strong wall. These

(Turn to page 66)

## REARWIN SPORTPLANE GAS MODEL



56" Span. Length 37 1/2". Free Flight

Set has all parts printed on balsa, ready cut wheel parts, set of colored painted glue, full size drawing, and all parts, silk span covering, ailerons, body painted 1/2 back, large quantity of materials. Uses "B" gas motor. Cost, \$12.00 set, without motor

ADD 20c TO EACH SET FOR PACKING AND POSTAGE

SEND 10c COIN FOR NEW CATALOG

## CURTISS P-40F GAS MODEL



48" SPAN. 1-1/3" SCALE. GAS MODEL DE LUXE

SPECIAL FEATURES: ALL Balsa CONSTRUCTION, PLANKED Balsa BODY, USES "B" OR "C" CLASS GAS MOTOR, INVERTED CONCEALED IN RADIATOR

This is one of the strongest models ever built. Suitable for U control, free flight, or radio control. Includes all parts printed on balsa wood, including motor, ailerons, rudder, and all parts. Cost, \$9.00 set, without motor

## NORTH AMERICAN B-25-H



33 1/2" Span. Length 24 1/4". 1/2" Scale. Color, Silver

A real beauty. Exact detailed model of the most heavily armed medium bomber in the world. Includes all parts printed on balsa wood, including motor, ailerons, rudder, and all parts. Cost, \$4.00 set, without motor

MINIATURE AIRCRAFT CORP.  
83 LOW TERRACE,  
STATEN ISLAND 1, NEW YORK



# Ready TO DELIVER



The nationwide popularity of model airplanes has reached astounding proportions . . . and the demand for model planes has no season.

Our stocks include most all nationally advertised makes and models of planes . . . as well as new motors.

## CLEVELAND SUPER-DETAIL MODELS

Curtiss P40	List \$3.00
Lockheed P38	" 4.00
Brewster Buffalo	" 3.00
Grumman Hellcat	" 3.50
Douglas Dauntless	" 3.50
Vought Corsair	" 3.50

## NATIONALLY ADVERTISED MOTORS

Rocket "C"	Complete \$22.50	List
Hurricane "B"	" 24.95	"
O.K. Super "60"	" 24.00	"
Atwood Champion	" 23.50	"

Save time and money by placing your orders direct with us . . . Write for complete catalog and price list. DISCOUNTS: Our regular trade discounts are extended to all recognized dealers.



# Walthour and Hood company

ATLANTA 1, GEORGIA



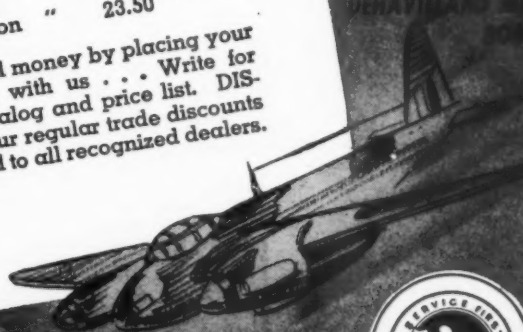
P-61  
NORTHROP  
BLACK  
WIDOW



HAWKER  
HURRICANE



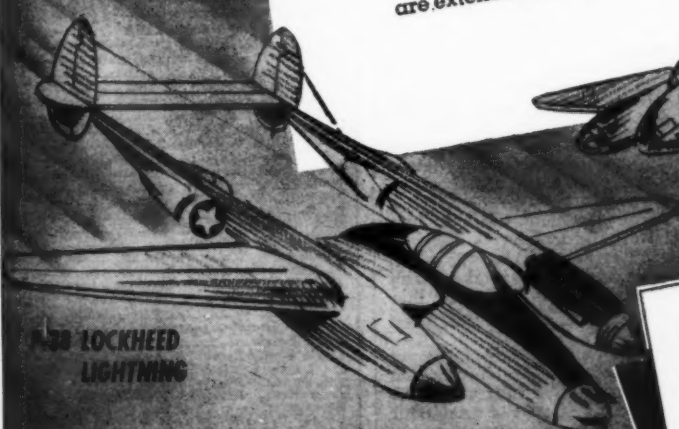
DEHAVILLAND HURRICANE  
POWER



P-51  
NORTH  
AMERICAN  
MUSTANG



BELL P-39  
AIRACOBRA

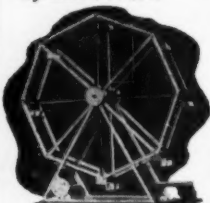


P-38 LOCKHEED  
LIGHTNING

# MODEL KITS



In cooperation with Greyhound Lines, Maco presents Greyhound's own great cross-country Super-Cruiser in authentic 1/2-in. scale. Kit includes full equipment for inside and outside of coach, plastic headlights and steering wheel, plexiglass; all parts cut and shaped to fit. Completed model over 18 1/2 in. long. At your dealer...\$4.25. By mail add 25c.



Ferris Wheel

Circus Series No. 19. The big wheel will actually revolve and the seats

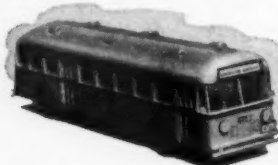
swing free. Ferris Wheel stands 17-in. high when completed. At your dealer...\$1.50. By mail add 15c.



Animal Cage

Circus Series No. 20.

As in every MACO kit, this model includes all parts cut and shaped to exact size, ready for assembly. 10-inch. At your dealer \$1.25. By mail add 15c.



**Intra-city Model Bus** An authentic miniature of the super motor coach used in most city transportation systems. Full equipment for inside and outside of bus. Full size plans, detailed instructions and assembly sequence. 20-in. long, in exact 1/2-in. scale. At your dealer...\$3.75. By mail add 25c.

To the Model Dealer—MACO Model Kits are available for immediate shipment. Write for complete information.

**MACO MODEL CO.**

2240 Fair Park Avenue  
LOS ANGELES 41, CALIFORNIA

panels are built in sets to simplify final assembly time. The hull is made with the bottom skin spot-welded to pressed internal bottom formers, while side members, spot welded to dishpan ribs, are assembled to the bottom with a row of rivets along the chine.

The cabin floor, which is the deck covering of the hull, is formed to provide attachment for the cabin side walls. The aft section, running to the tail is comprised of left and right hand semi-elliptical assemblies with local reinforcements inside. The tail assembly—fin, rudder, stabilizer and elevator—is identical in construction to that of the aileron and flap. Engine cowling is formed to contour in dies with local hat sections spot welded inside for reinforcement. Windows are inset and faced with finished trim molding as in the conventional automobile. Finish upholstery is snap buttoned into place just before final inspection. Instrumentation, similar to that of the conventional light plane, includes two-way radio.

Triumphs of engineering, construction and production that made possible the Thunderbolt—all purpose fighter plane which proved so important a factor in winning ultimate victory—are now directed in the making of Republic's Seabee.

And by the same token, thousands of pilots who flew their missions over the farflung theatres of the war have contributed their experiences to proving the fundamental strength and safety of the Seabee—inspired, designed and constructed... for peace!

## 'Seabee'

(Continued from page 15)

tions and set about the task of sanding down the 3/32" sheet "skin" with progressively finer grades garnet paper until it is about 1/16" thick and satin smooth. Apply two coats of filler, sanding after each coat, then follow with two coats of lacquer or dope. Sand lightly with 4/0 wet-or-dry and then cover with a good grade of tissue. Dope at least 4 extra layers of Silspan onto the bottom to insure water resistance and again use the wet-or-dry. Finally, apply 6 coats of pigmented dope or two coats of good grade enamel and set aside to dry.

**FLYING**—Connect up control lines and move ignition components about until the c.g. falls in the location shown. Inspect the surfaces for correct trim and the Seabee is ready for its first test flight.

At the time of writing the ship has not yet been tried on water, local ponds being ice bound, so no hints can be given of its behavior under these conditions. From the test flights over snow which have so far been made, the indications are that flying over water next Spring is going to be successful.

Test flying should be done with caution until best c.g. location has been determined and the controlling influence of the elevator properly assessed. With a motor of .29 displacement the ship flies extremely well and safely, is easy to handle and rather slow (perhaps 25 mph), but it requires rather a long takeoff run and for this reason it is suspected that such a small motor would not take it off water.

It was after a motor of .60 displacement was fitted that trouble developed which needed drastic corrective measures. The increased speed promoted a nosedive tendency which full up elevator would not overcome. Happily the ship was fly-

(Turn to page 68)



Jobber Member  
M. I. A.

## Dealers! HERE IS SERVICE That Insures Your Profit

**COMPLETE SELECTIONS** from the nation's leading model, hobby and toy lines. Over 10,000 different items are carried in stock at all times. Regular news releases on new and seasonal products offer the means for good turnover throughout the year.

**PROMPT SHIPMENTS**—Merchandise from stock is shipped in 24 hours. Business is confined to wholesale.

**PRICES** are stabilized to maintain good margin of profit to stores.

**MERCHANDISING** helps are offered by an experienced staff who are pioneers in promoting model building and other hobbies. Personal surveys are made in over 100 test stores every month.

Get Complete Facts—Write Today.

**H. F. AULER CO.**

157 N. Broadway,  
Milwaukee 2, Wis.

## Immediate Deliveries

24 HOUR SERVICE

Melcraft "29"

\$1850 Less Coll & Cond.  
25c postage



\$20.75 With Coll & Cond. Add 25c postage and insurance

Hurricane "24" \$24.95 pp.

with coll and cond.

Eagle Dreamer.....\$7.50

Eagle Vagabond.....5.50

Snaflu Ercoupe.....12.50

Custom Cruiser 10.00

G-13 (biplane).....7.50

Brooklyn Dodger 3.50

Add 25c postage for each kit.

**COMBINATION OFFER**

Hurricane "24" and Dreamer for \$30.00. Add 50c postage

### SUPPLIES

Hely Arc streamlined 2" wheels, pair.....50

Snaflu 2 3/4" sponge wheels, pair.....50

Snaflu Tether Kit.....1.00

Snaflu Spinner.....50

Snaflu Propeller.....75

Control Horns (dural).....15

Control Wire .010-.016, 100 ft. 50, 150 ft. 75

Power Plus Batteries, 2 volt.....2.75

(10c postage) 4 volt.....3.50

Wilco Coil (10c postage).....1.95

New Power Babe (u control).....2.75

Neoprene Tubing, ft.....35

Champ Plugs, v, v2, v3, postpaid.....50

Bass Plywood, 1/4x6x12.....25

Testors Cement (tube).....10

Testors Dope (all colors).....10 and 25

Testors B-29 (add 25c postage).....2.00

Prop Shop Gliders (add 10c postage).....35

Landing gear wire, 1/16x36" .06

3/32 .10, 1/4.....35

Control Handle, postpaid.....25

Eagle Solids.....35, 50 and 1.50

Eagle 4 way flyers.....1.00

Austin Craft Timer (10c postage).....1.50

MR. DEALER—Please write for details on any of the above items. Regular trade discount. Remit by money order.

NO C.O.D.'S—NO ORDERS UNDER 50c accepted. Add 10% for postage on items that are not postpaid or indicated.

**STEWART MODEL PRODUCTS CO.**

1117 Garfield Street, Denver 7, Colo.





# Announcing A GREAT NEW MODEL



**\$1.50**

AT YOUR DEALER

THIS IS ONE MODEL YOU WILL REALLY WANT TO BUILD!  
Kit contains absolutely everything needed to complete this truly authentic Model

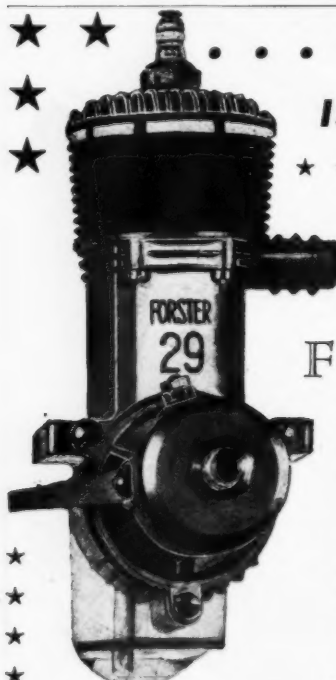
- ★ PRE-FABRICATED WOOD PARTS
- ★ PRE-CUT METAL WIRE PARTS
- ★ PRE-FORMED GUN TURRETS
- ★ STEERING WHEEL
- ★ ALL NECESSARY HARDWARE
- ★ EASY-TO-FOLLOW PLAN
- ★ MECHANISM FOR RAISING & LOWERING RAMP

**CEMENT  
PAINT & DECALS  
ARE FURNISHED  
TOO!**

**NOTE TO DEALERS**  
Please order from your jobber. If your regular jobber can't supply you write us for name and address of nearest jobber who can.

**MARS MODEL INDUSTRIES**  
713 WEST 6TH STREET  
LOS ANGELES 14, CALIFORNIA

★ ★ . . . the "genuine"  
★ ★ IS THE ONE FOR ME!  
★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★



Those who powered their models with it will tell you that for speed, power output, easy starting, and long life it's hard to beat the genuine

**FORSTER "29"**

Perhaps more than any one single factor, its excellent reputation for outstanding performance is due to our religious adherence to Quality. Nothing but the very best in materials and workmanship enters into its makeup.

Imitators are at work to hang a "japanese" imitation on you, which, in appearance, is calculated to look like the genuine FORSTER "29". Make sure you're getting the genuine by looking for the name on the engine.

*Write for Descriptive Literature*

Repair parts and service available at the factory

**FORSTER BROTHERS**

3539 N. Kenton Ave., Chicago 41, Ill.

Still only  
**\$18.75**

complete with Aero Feather-weight Coil and Metal Condenser.

ing quite low and no damage resulted. A new stab was built with an inverted section and the trouble was entirely eradicated making it certain that no difficulty will arise when the ship is eventually tried in its proper element.

It should be mentioned that the model appearing in the photographs has been regarded throughout the trials as a guinea pig and no attempt was made to "dress it up." Final tests having now been successfully concluded, the model will be finished properly.

To those readers who are diehard "free fighters" it is believed that the Seabee offers something new in Class B models. The original ship weighed 39 ozs. ready to fly, but the structure has been greatly lightened in the plans and it should be possible to build to 36 ozs. which will give a wing loading of about 12 ozs. per square foot.

It is further suggested that the boom be lengthened some 2" and the horizontal tail area increased by 50% to give better longitudinal stability. Also, the wing profile should be more in keeping with desirable free flight behavior and could better employ an airfoil similar in characteristics to the N.A.C.A. 4412, Gottingen Sections 398 or 398R or similar high lift section. It should be borne in mind that in all pushers e.g. location is of paramount importance and upon its ideal location will largely depend the stability of the ship. Much time and effort must be patiently expended until correct balancing point is arrived at; only then may the ship be allowed its head under full power.

## Air Ways

(Continued from page 29)

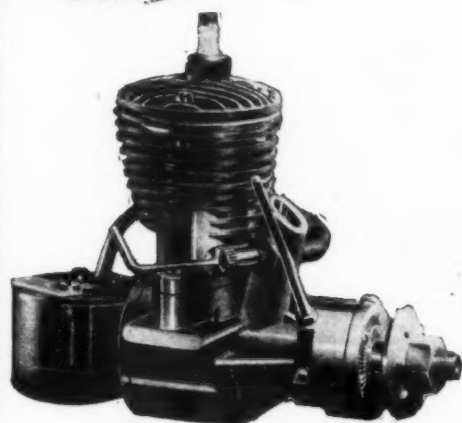
The control liner shown in No. 8 with its two proud builders was constructed under conditions that would discourage most modelers. It was built in a Swiss internment camp by Arlie L. Brown, Jr. and his friend Lt. "Champ" Murray who is seen on the left. This ship turned in a speed of 55 mph and was rebuilt many times. These enthusiasts had never seen a control line job but with the help of Capt. Cardenas, who had been connected with research at Wright Field, they finally worked out a practical setup. The gift of a book on aeronautics by Mr. Lowry of the Red Cross in Geneva was a great help. Mr. Brown tells us that Swiss modelers are quite active although most of their work during the war was confined to soaring gliders, a few of which featured an automatic rubber control. The course of the model is pre-determined and then a small magnetic needle is set. When the ship turns off its course the needle moves and this movement is transmitted electrically to the rudder. Most of the gliders are built completely of hardwood and although the kits don't compare with those available here the Swiss builders are really experts.

The beautiful scale model *Typhoon* in No. 9 was built by R. Watson, S/C RAF, England. He didn't tell us very much about it except that all controls, flaps and undercarriage are movable and it is built to 1/48" scale.

No. 10 is a Class C Control Liner submitted by the builder H. F. DeBolt, AM 2/c, U. S. Naval Air Station, Patuxent River, Md. This ship has a wing area of 200 sq. in. and weighs 48 oz. It is powered by an Ohlsson 60 and has turned in a speed of 65 mph. The builder is a member of a Navy sponsored Model Engineers Club at his station and wishes particularly to point out that the Navy has gone

# MEET THE NEW

# SUPER HURRICANE



CLASS B.

.24 DISPLACEMENT

Not just another gas engine... but a powerful, lightweight... PRECISION BUILT... dependable gas engine.

CHECK ITS

## SUPER FEATURES

- Weight—only 5½ ozs.
- Power—11,000 R.P.M. per min.
- Rotary Valve.
- Pure Platinum Points.
- Hardened Pressure Castings.
- New Streamlining and Extra Fin Area for cooler running.

## SUPER PERFORMANCE

Has placed first in many contests, including "U" Control speed events.

# 24<sup>95</sup>

AT YOUR  
DEALERS—NOW

MADE IN CANADA BY  
**PRODUCTION & TOOL CO.**

864 PAPE AVE.

TORONTO,

U.S.A. SALES AGENTS AND REPAIR DEPOT

**BERT ROBERTSON & CO.**

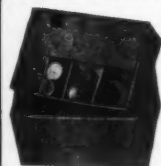
P.O. BOX 139

BATAVIA, N.Y.



Recognize and remember  
this emblem—it means  
the wearer has an  
Honorable Discharge  
from the  
U. S. Armed Forces!

## 60 PIECE UNIVERSAL ARBOR TOOL SET (3/32" shaft) \$195

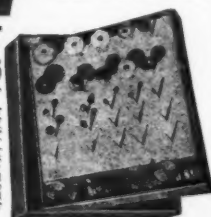


Includes assortment of engraving and carving burrs, grindstones, cut-off wheels, polishing buffs, bristle polishing brush, 2 mandrel arbors, circular saw, garnet and emery sanding discs—truly a super value.

## DELUXE SET

140 Pieces \$395  
(Illustrated)

All the above in larger quantities plus many other hard to get items, many with detachable shafts—boxed to keep neat and easy to use. Really a \$9.95 value. Will ship to any part of the world prepaid. Send check, Money Order or Cash.



**GENERAL AIRE CO.**

447 W. Norris St., Dept. D., Philadelphia 22, Pa.

well out of its way to make the men in service happy as well as creative.

The *Flapper*, No. 11, was built from *MODEL AIRPLANE NEWS* plans published a few months ago. The builder, Capt. Gilbert W. Schwartz, at the AAF Station Hospital, Romulus, Mich., writes: "There was no one more greatly surprised than myself when I saw the thing fly. I let it loose and with wing panels flapping it just bounced merrily through the air and landed on the roof of another house in the project where I live. I have had several other flights since then. This is no record breaking model but something just for fun and entertainment." The *Flapper* was suspended in flying position by Capt. Schwartz for this picture.

The *Super V Shark* in No. 12 was built by H. O. Wise, 2802 Rodman St., Louisville 8, Ky. This model was not built exactly to plan since it has a conventional type U-control apparatus instead of the roller control, as well as a special landing gear. Mr. Wise tells us that an *Ohlsson 23* was used for power and has proved fairly satisfactory but he feels that a 60 would be much better.

We have a letter from David R. Winans who is at present in the Navy but hopes to be released shortly; he is greatly interested in contacting model builders of 1/8" scale models. Winans has been building this size for several years and has quite a collection. Although at the time of writing his letter he was stationed at Midway Island, he asks that interested parties contact him at his home, 328 Chilton Street, Elizabeth 3, N. J.

Jack Danks, whose model was shown in this department in August 1945 M.A.N., writes us that he received a letter from Jackie House requesting information on

## DEALERS

## PROMPT SERVICE ON GAS KITS

NEWEST 1945-46 MOTORS, SNAFU'S ERCOUPE X CELLS, POWER PLUS BATTERIES, FLO TORQUE PROPS, X CELL PROPS AND BATTERIES, WILCO COILS DOPES, CHAMPION SPARK PLUGS, FALCON SPORTSTER-SPEEDSTER, MISS BE HAVES THE NEW BUZZ, V.G. CLARK WILLIAMS, COMPLETE EAGLE, COMET, MAIRCRAFT, HAWK, H AND F CO. CLIFF'S TRAINER, AUSTINCRAFT, CANNON CLASS B AND C. MOTORS: BARKER MOTORS, HURRICANE "24," SCRAPPER "29," ROCKET 46. PARTS FOR MANY MOTORS.

We have the motors and have had new motors for past two years. We are located in exact center of U.S. and can give prompt service. Standard discounts. Drive in and see us. A jobber who builds and flies Model Airplanes.

SEND FOR OUR COMPLETE LIST or use the model magazines as a guide. If it's for a gas Model Airplane, try us first, always.

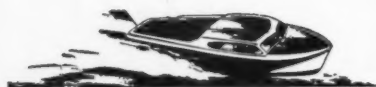
## HOLCOMB GAS MODEL SUPPLY CO.

Don D. Holcomb, Long Distance 200  
Alma, Kansas

# Streamlined Fleet



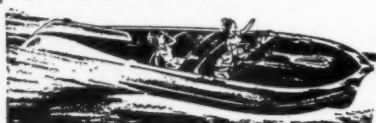
**Sail King.** All-Star's latest triumph! 24x15x5 scale model of fine racing sailer designed by famous Marine architect. Beautiful for display and really sails. Includes 110 sq. in. of sail, nearly all finished pieces, paint and glue. \$2.00. By mail \$2.15.



**Sea Queen.** Graceful 14" cabin-cruiser with Royal lines. A peace-time boat built on PT Hull. \$1.50. By mail \$1.65.



**PT Boat.** Breathtaking 14" replica of Navy's famous fighter! Ready turned parts, full size plans. \$1.50. By mail \$1.65.



**Sea Demon.** Ultra modern speedster with powerful rakish lines. 2 color PT style hull. \$1.50. By mail \$1.65.

Please Send No Currency

## ALL★STAR

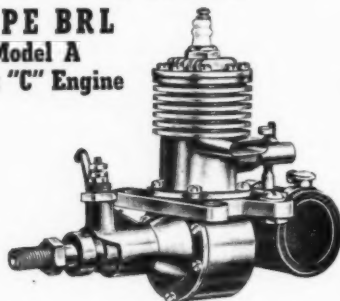
ALL-STAR MODEL AND MANUFACTURING CO.

2003 Lincoln Ave., Chicago 14, Ill.



### YOUR BEST BUY is a BOND!

TYPE BRL  
Model A  
Class "C" Engine



- ★ EASY STARTING
- ★ LONG WEARING
- ★ CRASH RESISTING
- ★ QUICK REVERSING

Here's a precision-built engine that is scientifically designed for easy starting. Specially designed carburetor has built-in venturi and high-speed and idling jets. Ignition system with tungsten points gives hot spark at high speeds and in starting.

Long life assured by truly precise workmanship . . . piston lap-fitted to honed, steel cylinder . . . accurately balanced crank shaft has full 1 3/8" main bearing of self-oiling, high-speed bronze. THERE ARE NO DIE-CAST BEARING SURFACES IN BOND ENGINES.

Easily reversed by a simple spark adjustment, this engine spins a 14" prop at 200 to 7000 RPM, developing about 1/3 HP in either upright or inverted position.

Price, complete with brass gas tank, ignition coil, condenser, high tension lead, and spark plug . . . only \$24.95, postpaid. See it at your dealer's or

write to

**BOND Model & Hobby Shop**  
127 Rogers Avenue  
Somerville 44, Massachusetts

★ ★ ★ YOUR BEST BUY IS A BOND ★ ★ ★

the modified *Small Stuff* control line. Unfortunately, Jackie did not include a complete address so we are hoping he will see this and write Mr. Danks again, this time supplying the vital street number.

## CLUB NEWS

### California

The East Bay Aeronauts held another contest September 16, 1945 at Livermore with the following results:

Class A—(1) Al Hovsepian, 7:30; (2) John Dropphoff, 3:15.4; (3) Jack Dyer, 2:40.1.

Class B—(1) Bill Dunham, 9:01.5; (2) Dan Foote, 7:48; (3) John Dropphoff, 7:11.7.

Class C—(1) Les Martin, 9:28; (2) Les Foote, 7:51; (3) Charles Doan, 7:45.

The EBA also held an indoor contest with these results:

Junior—(1) Gene Sandy, .07; (2) Walt Hubbard, .05.5; (3) Jim Shott, .05.5.

Senior—(1) Jack Dyer, .13; (2) Art Wells, .11; (3) Art Wells, .11.5.

### Connecticut

The Norwalk Model Club of East Rock Road held contests every Sunday through last September 30th. The grand prize winners were:

(1) Roy Byington; (2) Addison Austin; (3) Pierre Amand.

### Illinois

The Aero-Bats, of Harvard, are looking for correspondents. Anyone wishing to write them should address Robert March, 200 Church Blvd., Harvard, Ill.

### Kansas

On November 11, 1945 the Hy-Flyer Clubs of the YMCA East Side Branch, Wichita, met at the Forum and will continue to meet on alternate Sundays until March 6, 1946. Everyone is invited, admission free. Les DeWitt was elected Pres. in Jim McClelland's place, Jim working in an advisory capacity now. They held a contest November 18th on Wilson Field at 1:00 p.m. Results will appear in a future issue.

### Louisiana

Shreveport Modelers Club has been reorganized, and any interested parties may reach them by writing James L. Beck, 3115 Boss Ave., Shreveport. Their new officers are: Pres. James L. Beck; Vice-Pres. Henry Riley; Secy. Jake Norris; Publicity Chairman Loy Vandiver; Program Director G. W. Beck; Contest Committee Chairman M. L. Vandiver; Director of Flying Henry Riley. Anyone in the Ark-La-Tex area is welcome.

### Missouri

Air Scout Squadron #604 held a meet September 15 and 16 at St. Louis with these results:

H. L. Glider No. 1—(1) Gene Templemeyer, 2:39; (2) Bud Willis, :49.2; (3) Gene Templemeyer, :30.2.

Towline Glider (Sr.)—(1) Glen Kullman, 1:55; (2) Gene Templemeyer, 1:06.2.

Towline Glider (Jr.)—(1) Herb Ailsleiger, :53; (2) Allen Schultz, :34.2; (3) Michael Gillem, :31.

U Control Speed Class B—(1) George Onk, 47.36 mph.

U Control Speed Class C—(1) Don White, 81.81 mph; (2) G. E. Tabor, 70.31 mph.

Spot Landing—(1) Don White; (2) Ed Hotze; (3) G. E. Tabor.

H. L. Rubber—(1) C. Wehmuller, 3:36.3; (2) Bob Denton, 2:36.3; (3) Bob Denton, 2:06.3.

H. L. Gas Free Flight—(1) Bob Denton, 2:08.3; (2) Bob Sullivan, 2:08; (3) Jim Lignon, 1:06.3.

H. L. Gas Free Flight Class B—(1) H. A. Dieker, 1:55; (2) Don Chase, 1:24; (3) William Klipp, :48.

H. L. Gas Free Flight Class B (Jr.)—(1) J. Wilmes, 3:11.1.

H. L. Gas Free Flight Class C—(1) G. P. Gradall, 2:32; (2) T. F. Thayer, 1:42; (3) W. Wiegiers, 1:36.

### New Jersey

Bob Love, 13 year old modeler of 107 Bryant Ave., Springfield, would like to write to fellow enthusiasts.

The National Contest of American So-

(Turn to page 72)





## A CONTROL LINE Sensation!

The new SUPER "V" SHARK, designed for Class B and C motors, is racy, rugged and full of flight! Featuring the latest improved Roller Control device and Directional Control Stick, this classy model is especially adapted for speed and stunt flying, and can zoom through the air at 120 miles per hour with amazing stability and rock steady control. Ruggedly constructed of balsa wood in the wing ribs, cowl, stabilizers, elevators, fins, rudders, etc., with hardwoods and plywoods where extra strength is needed. All steel landing gear gives added durability to this control line champion.

### COMPLETE CONSTRUCTION KIT

Including everything needed to construct the Super "V" Shark . . . ample supplies of carefully selected balsa, plywood, hardwood, music wire, cement, dope, screws, etc. Also complete plans and instructions for building and flying. 100 FEET STEEL G-LINE . . . 50¢

**\$495**

PLUS 30¢ POSTAGE

A super "G" Line Model of unusual perfection: The Baby "V" Shark has a wing spread of 20 inches and performs like a champion, with a speed of over 100 miles per hour. Constructed of balsa wood, hardwood, plywood . . . with durable all-steel landing gear. The ideal model for the beginner.

### COMPLETE CONSTRUCTION KIT

**\$295**

PLUS 25¢ POSTAGE

Send for the new illustrated Stanzel Super "G" Line Flying Catalog, descriptive literature that lists all the Stanzel line of models and prices. Only 5¢.

**VICTOR STANZEL and CO.**

*First in Control Line Flying*

SCHULENBURG, TEXAS

# "FUSTEST WITH THE MOSTEST!"

A certain Civil War general, when asked the secret of winning battles, is said to have replied: "Get there fustest with the mostest." We think customers are won the same way. So we've built our business on being first with merchandise as quickly as each "first" is available.



We feature the largest assortment of hard-to-get items in America. We can supply you with every leading line of model airplanes, boats, trains, gas motors, accessories, hand tools, grinders, etc.

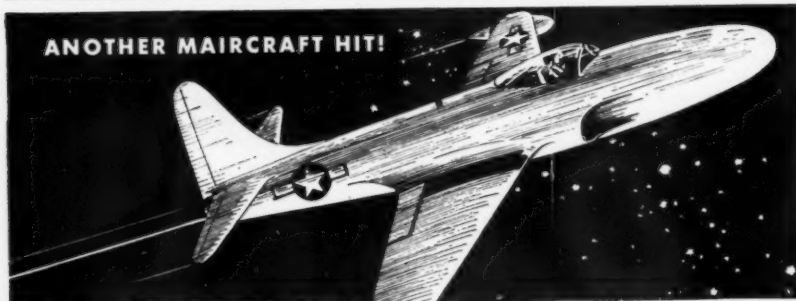
Write today for our FREE booklet, "PROFITS THAT R.O.G.," telling how to build a successful model business. Backed by 15 years experience.

## KRAMER BROTHERS

Model Distributors

125-27-29-31-33 Colvin Street

Baltimore 15, Md.



new 1/4" scale solid model kit

## LOCKHEED P-80 "Shooting Star"

Again Maircraft leads the way with this super model kit of the jet model sensation—produced with traditional Maircraft quality to be the finest 50c kit ever! Just look: 1. Large (17 x 22 inch) exact 1/4 inch scale three-view plan sheet including easy-to-follow GRAPHIC ILLUSTRATIONS of every construction step (just like the famous Black Widow plans). 2. All major parts cut to shape both ways. 3. All parts tailored to plan and pre-tested on an exact scale "Development model" by MAIRCRAFT'S NEW ENGINEERING AND DEVELOPMENT DEPARTMENT. See this sensational new Lockheed "Shooting Star" kit—today!

finest  
**50c**  
KIT EVER



4026 ELSTON AVE.

CHICAGO 18, ILL.

### SEE YOUR DEALER...

Maircraft doesn't sell direct. But if your dealer can't supply this super 50c kit, add 10c for packing and postage and we'll ship from stock nearest you.

ciety of Model Aero Engineers was held at Teterboro Saturday Oct. 14, 1945. Winners of the various events were:

Free Flight Gas, Class 1—(1) Davis Lewis; (2) L. Leon Shulman; (3) Richard Ansiki, Jr.  
Free Flight Gas, Class 2—(1) Seymour Gartner; (2) Donald Baird; (3) Michael Spisak.  
Free Flight Gas, Class 3—(1) Julius Maklas; (2) Walter Semke; (3) Orval Stewart.  
Towline Glider—(1) John Thompson; (2) Walter Semke; (3) John Gluth.  
Fuselage Rubber Powered—(1) Ozzie Winters; (2) Robert Syman; (3) William White.  
Stick Model Rubber Powered—(1) William Bornman; (2) John Gluth; (3) Orval Stewart.  
Hand Launched Glider—(1) Larry Squires; (2) Richard Ansiki; (3) Martin Schwartz.  
U Control Gas, Class 1—(1) Ernie Babcock, Jr.; (2) Edward Pincus; (3) Frank Molchanow.  
U Control Gas, Class 3—(1) Joseph Kanna; (2) John Diehl; (3) Ernie Babcock, Sr.

The weather was awful on Saturday, very few fellows caring to risk their ships. On Sunday, however, the wind had died down and aside from those models caught in the showers, the casualty list was low.

### New York

The Kiwanis and Westchester Hobbies Inc. held a meet September 16th for modelers with these results:

Free Flight Gas, Class A—(1) Warren Fletcher, 2:17.7; (2) William M. Dean, 1:38.2; (3) John Cibi, 1:05.2.  
Free Flight Gas, Class B—(1) Art Horak, 1:06.7; (2) David Hunt, 1:00.5; (3) Roland Lane, :59.6.  
Free Flight Gas, Class C—(1) Skeet Reinhardt, 1:26.1; (2) David Hunt, 1:12.5; (3) John Bleck, Jr., 1:05.5.  
U Control Class A—(1) Robert Du Breuil, 30 m.p.h.  
U Control Class B—(1) Arthur Hasselbach, 75.5 m.p.h.  
H. L. Stick—(1) Warren Fletcher, :64.2; (2) Leonard Kendy, :59.2; (3) Charles Stumpf, :50.  
Rubber Endurance—(1) Art Horak, 1:32.1; (2) Albert Ames, :17.8.  
H. L. Gliders—(1) William Fletcher, 1:09.7; (2) Joseph Sansone, :49.5; (3) Fay Factor, :49.4.  
Towline Sailplanes—(1) Ray Factor, 3:22.2; (2) Art Horak, 2:10.1; (3) William Fletcher, 1:14.2.

### Ohio

The Model Industry Association of Cleveland held a contest at Ford Field September 30th. The prize winners were:

Class A Gas—(1) Julius Takas; (2) Howard Robinson; (3) Richard Korda.  
Class B Gas—(1) Fred Hausen; (2) Dick Fox; (3) Geo. Landreth.  
Class C Gas—(1) William Bareis; (2) Jim Klotz; (3) Richard Korda.  
Towline—(1) Chester Lanzo; (2) John Karpas; (3) Richard Korda.  
Rubber (fuselage)—(1) Chester Lanzo; (2) Don Orman; (3) Dick Fox.

Bill Bareis who competed in the Class C contest hooked "something" and ended up in Lake Erie, some 20 miles away.

The National Exchange Club is awarding a new trophy to be held by the winner for one year or until he loses it to the new champion. The previous holder, however, will be given a replica of the trophy for his permanent possession. This new contest is going to be held in Dayton on the 42nd anniversary of the Wright Brothers' first flight. The National Flapping-Wing Model Airplane Contest is open to anyone under 18 years old.

### Oregon

The Portland Gas Hoppers Model Club has been organized with 75 members and these officers: John Fields, Pres.; Glen Propst, Vice-Pres.; Stewart D. Stephens, Secy.; Dave McKibbens, Corresponding Secy.; Wilbur Grassel, Treas.; Bob Williams, Sgt-at-arms; Rex Baumgarden, Contest Director.

They've already held two contests this year and have the Portland Exchange Club as their sponsors. They would be very happy to hear from other model clubs. Other contests expected to be held during the next year are U-Control, Radio Control, Glider and Free Flights.

You can reach them by writing to (Turn to page 74)

# Out of the dreams of far-seeing men...

COMES



The "SKYVAHL"

## The first ALL-METAL, post-war FREE-FLYING Model!

Like the proudly reminiscent flight of a soaring sea-gull, the long-planned, graceful, flowing ALL-METAL SKY-VAHL is here at last for the world to see. Alternating from either class B or C it measures 59 inches from wing tip to wing tip, and 35 inches from nose to tail. Your Skyvahl is made of the same material as modern military and com-

mercial aircrafts. This, the newly-created work of men with far-seeing vision, will soon be in the home of every leading model plane enthusiast in the country. Keep pace with the future! Be among the first in your section to own the sleek, beautiful ALL-METAL, FREE FLIGHT GAS MODEL.

**DESIGNED BY** *Harold R. Johnson*  
TESTED AND MANUFACTURED BY

### Vahl Engineering Company

505 Court Street • Brooklyn 31, New York

**DEALERS!**

This model is one of the first METAL-  
LINE PRODUCTS and is now in large  
scale production. It will be the fastest  
selling item of its kind. Order NOW for  
prompt delivery!



## Prompt Service

### on Gas Kits

### and 1946 Motors

We stock all known gas kits.  
Write us for your favorite kits  
and motor.

**BERKELEY CLEVELAND**  
**ERCOUPE CLIFF'S TRAINER**  
**PACERS X-CELLS**  
**MODELRAFT STING RAY**  
**CLEVELAND TETHER STREAK**  
**DREAMER FALCON**  
**THE NEW 110 MPH BUZZ**  
**KNIGHT TWISTER BI-PLANE**  
**V-G CLARK WILLIAMS**  
**BERKELEY CONTROLINER P-47**  
**STANZEL SUPER SHARK**  
**MISS BE HAVE, \$3.95**  
**EAGLE AND H & F KITS**  
**COMET KITS MAIRACRAFT**

FLO TORQUE PROPELLERS  
AIR FLO PROPELLERS  
HI-THRUST PROPELLERS  
Aero Coils—Wilco Coils  
Balsa Wood Wiring  
Champion Spark Plugs—Quality  
Dopes, Thinners and Cements  
Bolts, Nuts and Spinners  
**NEW MOTORS**

We regularly have a large number of motors for immediate delivery. May Rocket, .46 displacement; Hurricane "24" displacement; Atwood Champion, .603; O.K. Tornado, .600; Cannon B, .29; Cannon "358" displacement; Scrapper Super Model, displacement .29; Barker C.

We buy and sell reliable rebuilt and guaranteed used motors. Give exact condition and price wanted.

Parts for Forsters, May Rockets, Hurricanes, Scappers, Atwoods and others.

SEND 10c FOR 40 PAGE CATALOGUE AND LISTS

We have one of the largest and most complete stocks of gas model supplies in central U. S. Eight years in this location. Grow with us. Owned and operated by an active model builder.

SHIPPING INSTRUCTIONS: Include 15% extra for postage, packing and insurance. We ship A.P.O. and to foreign countries.

### HOLCOMB GAS MODEL SHOP

Don D. Holcomb  
Phone 37 or 200.  
**Alma, Kansas**

Stewart D. Stephens, 3717 SW Corbett, Portland, Ore.

### Pennsylvania

A Flying Circus and Model Airplane Meet was held Sunday October 7, 1945 at Strawberry Mansion, Fairmount Park, Philadelphia. The Grand Prize Winner was Aviation Metalsmith 1/c Harold F. De Bolt; other awards:

Beauty Event—(1) Ernest Pfeiffer; (2) Arthur L. Gray; (3) Loucks Stribgen.  
Tether Control, Class A—(1) Harold De Bolt; (2) Ernest Babcock, Jr.; (3) Ray Schofield.  
Tether Control, Class B—(1) William Johnson; (2) Harold De Bolt; (3) Matty Kenia.  
Tether Control, Class C—(1) Harry Preiss; (2) Frank Stanton; (3) Harold De Bolt.  
Tether Control Stunt—(1) Bill Warner; (2) Harold De Bolt; (3) Paul G. Heisler.  
Free Flight, Class A—(1) Carol L. Bures; (2) Jack Oliss; (3) Alan Hein.  
Free Flight, Class B—(1) Lyall Stegar; (2) E. Elwood Phillips; (3) Alan Hein.  
Free Flight, Class C—(1) Karl Stebbins; (2) Edward Ritter; (3) Angelo Di Salvo.  
Free Flight Stunt—(1) Fred Haesche; (2) Ernest Pfeiffer; (3) Brighton Barron.  
Rubber Power Event—(1) Eugene Engelhardt; (2) Chester Lanzo; (3) Richard Sladek.

A special prize award went to Cpl. Donald T. Rothers, currently stationed in Luzon, for sending in an entry from the farthest distance.

### Texas

A contest will be held at El Paso under the Western States Model Airplane Association rules, and will be U Control featuring Speed, Precision, and Special Flights. Many trophies will be awarded. It will take place at the Municipal Airport. The exhibit opens on December 16th and the preliminaries for the model plane contest will take place from 9 until 12 that day. After that, a barbecue until 2 and an air show from 1 until 2:30; then demonstrations of special planes until 5. From 2:30 to 6, finals and award of prizes will be announced.

### Washington

Olympia Miniature Aircraft Club held its annual contest at Olympia's Million Dollar Airport, Sunday August 19, 1945.

This club originated a new rule which has proved satisfactory and which was used at the Seattle contest; that is, requiring a 6" string attached to the tail of the ship and contestants must launch ship by letting go of the string.

The Cross Country event is held annually at Olympia and the Talcott trophy is awarded the most consistent ship. It is flown in heats of 15 minutes and the object is to see who can get the most time in the air within the 15 min. Contestants are given 60 sec. after the 15 min. are up to return their ship to the judge's stand. This event gives the modeler who has a slow ship a break.

Olympia also has a point system which has been in effect for a year. At least one contest is sponsored each month and the trophy is awarded to the member having the most points.

The results of the latest contest are:  
Open Gas—(1) Charles Hollinger, 311.9.  
Class A—(1) Bill Willemmin, 209.4; (2) Brandt Tennant, 149; (3) Roy Woodcock, 144.  
Class B—(1) W. R. Scott, 216.7; (2) David McAllister, 186; (3) R. P. Baumgardner, 150.9.  
Class C—John Fields, 160.6; (2) Owen Brown, 153.4; (3) Nigel Jones, 77.5.  
Cross Country—(1) Bill Willemmin; (2) Owen Brown; (3) Henry Paylor.

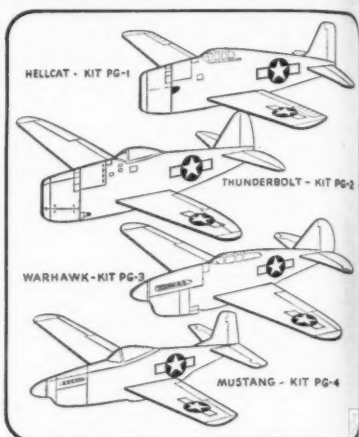
Irene Tuthill, 105 Kent Street, Salisban, Tacoma 5, would like to correspond with other young people (she's 17) who are interested in model building. So go to it, fellows!

Rigo Lindgren, Pensionatet, Ottenby, Sweden has written commenting on the work he is doing out there and if anyone would like to write to him, maybe good ideas can be exchanged.

## COAST's

NEW BEAUTIFULLY  
DESIGNED PROFI  
GLIDER SERIES

FOR HAND OR CATAPULT LAUNCHING



- ALL-BALSA
- READY TO FLY
- IN MINUTES
- PRINTED OUT IN FULL DETAIL
- EACH BOXED ATTRACTIVELY

ONLY  
**25c**

Each, at your Dealer's. If unavailable, order direct, adding 10 cents for each kit for packing and postage, and please send along your dealer's name and address.

DEALERS! USE YOUR LETTERHEAD FOR PRICES ON THIS FAST-SELLING ITEM

### COAST MODEL AIRCRAFT

3725 Ventnor Ave. (M-1) Atlantic City, N. J.

You can have one—NOW!  
REGULATION A-2

**Army Air Force**  
LEATHER  
**Flight Jacket**  
ONLY  
**\$19.95**

Coiling Price  
POSTAGE PREPAID

The same official Flight Jacket worn by America's Top Pilots, Bombardiers, Navigators and Flight Personnel. ALL-LEATHER — windproof, rainproof, light in weight but extra warm. To order, give your height and suit size. Color is Dark Brown. Send money order or check only. Money-back guarantee.

### NOTE SPECIAL FEATURES!

Solid brass zipper. Pure wool cuffs & waistband. Safety snap collar & pockets. Water repellent lining.

Send one overseas! Just get a request

**PERRY SALES CO., DEPT. MAN-1**  
37-47 82nd St., Jackson Heights, N. Y.

Enclosed is \$19.95. Suit size..... Height.....

Name.....

Address.....

City..... Zone..... State.....

**MAIL YOUR ORDER TODAY!**

UTIFUL  
PROFILE  
SERIES  
NCHING  
KIT PG-2  
PG-4  
ONLY  
5¢  
OUR Des.  
invaluable  
for pack-  
age  
FOR  
TEM  
RAFT  
y, N. J.  
W!  
2  
e  
t  
et  
95  
ce  
PAID  
by  
ers,  
L-  
hof,  
To  
ize,  
der  
ee.

## HECO Inflatable Air Wheels

Balloon landing wheels that can be inflated and deflated. Filler needle included free with each pair. The 2 1/2" size has lathe-turned hardwood hubs drilled for 3/32" axle, 3 1/2" and 4 1/2" sizes have aluminum washers and brass bearings to fit 1/4" axle.

2 1/2" dia. Pair..... \$2.00  
3 1/2" dia. Pair..... \$2.25  
4 1/2" dia. Pair..... \$2.50

# Austin-Craft

NOW YOU CAN  
BUILD YOUR OWN

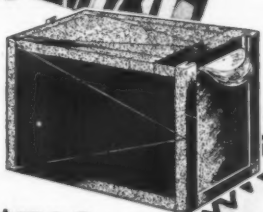
## REAL CAMERA

(NOT A TOY)

The Pin-Hole Camera works on the pin-hole refraction principle. Takes real pictures from standard 2 1/2x3 1/4 packs. Easy to operate. Every detail of picture always in focus, whether 6" or 200 feet away. Precision manufacture makes camera free from light leaks. Kit comes complete with all parts. No glue, tape, or nails to buy. Easy to assemble from complete plans which also list handy exposure chart.

- Bridge picture above taken with this camera.
- Kit includes lens material and regular shutter.

You can assemble the Pinhole Camera in a short time, and have real fun taking genuine snapshots of your friends, models, etc. Light weight, sturdy, compact, and only



\$129

## Flex-Shaft NEEDLE VALVE



Steel spring on thumb-screw shaft allows it to swing in a full circle and be anchored at ANY angle.

This is an entirely new precision-made Cyclo-type needle valve. Get better, more convenient gas adjustment with this NEW improved engine accessory.

\$125

## A-C NEEDLE VALVE Steps Up Performance

Gives broader, more positive adjustment. Can be installed on any standard make engine. Synthetic tubing furnished for attaching to tank.

75c



**HI-O GAS TANK**  
Won't melt or crack. Lasts as long as your engine. For "hot" fuels. 50c



**4-WAY PLUG WRENCH**  
Fits all plugs. Saves damage to head fins. Steel, with hex openings. 35c

## FAMOUS A-C TIMER

Accurate and reliable. Works on air-draulic principle, with only one moving part. Can't jam or wear out. Duration adjustable from 0 to over 2 minutes. Midget size weighs 1/4 oz., regular size 3/4 oz. Stop-watch accuracy.

\$1.50

## METAL MOTOR MOUNTS

2 sizes: 1 1/2x3 1/2 and 2 1/2x3 1/2. Stamped from dural metal. Punched holes for mounting on fire walls. Large size, pr.

55c 30c

## ACCESSORY SPECIALS

**BATTERY BOX** All-dural, positive contact. Fenite, 1" and 1 1/4" sizes, ea. 40c

**SPINNER NUT** 17-S hex. Drilled & threaded for 1/4" or 5/16" prop shaft. 30c

## TAIL WHEELS

Lathe-turned hardwood with balloon-type rubber tires. Holes can be drilled to fit any size axle. Very neat. 7/8" dia. 10c 1 1/8" dia. ea. 15c



**NEOPRENE TUBING** Holds the hot fuels. Ft. 45c

**PUMP BOTTLE** Quick, easy refueling. Holds 1/4 pint. 75c

**SILK SPAN** White—for gas jobs. Sheet— 10c

## SNAFU RED PLASTIC SPINNER

2 pieces, easy to install, using 2 thin washers. Adds class to your model. Each—

50c

## AIR-FLO PROPS

Smooth, speedy. Come in 2 types. **Steady**, for I-Control flying. Has 10" pitch. 8" thru 12" sizes. **Regular**, for free flight gas power. Has 8" pitch. 8" thru 14" sizes. Each—

45c

## ALL BALSA P-38 GLIDER

No cutting necessary. Fuselage slotted for wings. Can be assembled in just a few seconds. Individually boxed. Only

25c

## SNAFU ERCOUCPE

45" SPAN  
PARTS REPLACEABLE  
We sell extra Erco coupe parts.

**TETHER MODEL**  
The Queen of the Air! First choice for deluxe flying. Balsa and plywood die-cut parts, engineered construction, no skimping on parts or materials. Clear dope and cement included.

\$12.50

## California RANCH HOUSE

1/4 inch Scale "O" Gauge



With this all-balsa kit, you can build a replica of an authentic California Ranch House. Novel! Historical! Kit includes printed balsa sheets, triangle roof supports, material for front and back porch. A pre-fabricated Ranch House in miniature! Easy-to-follow plans. Complete kit, only—

75c

## Air-Flo FLEETSTER



**SUPER-SPEED IN SCALE!** The very last word in sleek, streamlined racing car models. Speedy, tear-drop body set low to give it that race look. Free-rolling balloon-type wheels. Kit has semi-shaped body, complete plans. Finished job is 8" long. All balsa. (O.F.A. approved prices.)

55c

## U.S. ARMY TRUCKS

Make miniature war memorials. Two sizes. 1 1/2 and 2 1/2 tonner. Die-cut plywood parts, with tops, ribs, canvas, free-rolling wheels. 1/2" to 1" scale.



Choice— \$125

## STAGE COACH

Replica of famous Wells Fargo coaches of the Old West. Die-cut parts, precision cut from plywood.



\$150

Comp. with plans.

## POWER-PLUS WET CELLS

Made with big-battery engineering. Plastic acid-proof cases. Flight or Super-flight Booster or Heavy Duty



\$275

\$350

## COVERED WAGON

Companion to the Stagecoach. Parts die-cut from plywood. Kit complete with barrel, single-tree, & cloth cover. Full size plans.



\$150

## A-C MIGHTY U. S. JEEP

Precision model with all parts die-cut from plywood. Free-rolling wheels, tons, insignia. Scale 1/4" to 1" ft. Finest jeep kit on the market.



75c

**POSTAGE:** Orders up to 75c add 5c postage. Orders up to \$1.10, add 10c postage. Orders to \$1.50 and over, add 15c postage.

**AUSTIN-Craft** 431 S. Victory Blvd., Burbank, Calif.

# FREE!! 40 PAGE CATALOG FREE!!

Our new 40 page catalog—just off the press—is the “bible” of wide-awake modelers. And what is most important, every item is in stock and ready for immediate shipment. Practically every nationally advertised model is listed and many, many hard-to-get items.

Every flying model we sell has **FREE RUBBER**. Ask for it!

## CONTENTS

- |  |   |
|--|---|
| 4 Available Gas Engines  | 17 Gliders & Towliners                  |
| 85 Engine Accessories  | 5 Swing-Control Models                  |
| 11 Free Flight Class C Gas Jobs  | 52 Ship Models                          |
| 33 Free Flight Class A & B Gas Jobs  | 230 Ship Model Fittings                 |
| 3 Float Kits   | 50 Books on Plane & Boat Model Building |
| 14 “U-Control” A-B-C Gas Jobs  | 85 Plans for Boats, Planes and Engines  |
| 5 Radio Control Equipment  | 15 Knives & Knife Sets                  |
| 4 Gas Model Boats  | 156 Solid Plane Models                  |
| 37 Gas Model Boat Props, Shafts, Couplings, Struts, Collars, etc.  | 148 Finished Plastic Models             |
| 183 Rubber Powered Flying Models   | 40 Solid Military & Other Models        |
| Plus U-Control Gadgets, Race Car Parts, Pneumatic, Rubber and Wood Wheels, Dope, Cement, Celluloid, Tissue, 1/8" Flat Rubber, Bamboo Paper, Music Wire, Wood Strippers, Props, Plywood, Cows—hundreds of items in all. | 59 Sizes of Balsa & Bass Wood           |

## WITH OVER 300 ILLUSTRATIONS

There is no catch to this offer. The catalog is absolutely free. America's Hobby Center wants you to get acquainted with what we have and our fast service. To get this catalog (it's really a 8 1/2" x 8 1/2" book of 40 pages) just send us your name and address.

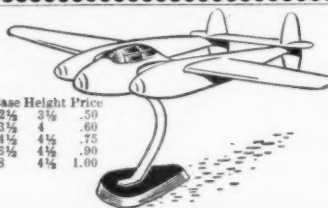
**AMERICA'S HOBBY CENTER**

Dept. MC-16, 156 West 22 St.  
NEW YORK 11, N. Y.

**ENHANCE the BEAUTY of Your MODELS with the**



No.	Base	Height	Price
1	2 1/4"	3 1/2"	.50
2	3 1/4"	4"	.60
3	4 1/4"	4 1/2"	.75
4	6 1/4"	4 1/2"	.80
5	8"	4 1/2"	1.00



Here's all the grace and sweep of "arrested motion". Show your planes literally poised in flight. Note the modern "sweeping" curve of bright stainless steel upright... as it "swings" up from the teardrop base in ebony black finish. Available in complete range of five sizes. Pedestals are completely assembled.

top mounting screw included.

Beautifully painted plastic planes completely finished and mounted—\$3.50 and up. Genuine photo and list of available models—10c.

Available at dealers and jobbers. If they can't supply write. (Add 15c if by mail.)

The HOBBY BUREAU

2136 S. Pulaski

Chicago 23

## IDEAL SUPER-DETAIL KITS GIVE YOU THIS NEW FEATURE... COCKPIT CONTROLS!

Douglas Dauntless—Wingspan 31"



See your dealer—or write to:

**IDEAL MODELS** 20-24 W. 19th St., New York 11, N. Y.

Newest, most sensational development in scale models! Plus Super-detail plans exact enough for real plane construction. Exclusive, specially designed fittings included.

**\$3.50 each**  
postage 15c

Complete Hobby Catalog 10c

## MODEL GAS ENGINE HANDBOOK

### TABLE OF CONTENTS

Part 1. Theory—Ignition—Lubrication—Metallurgy—Finishes—Mathematics—Experiments—Accessories—72 "Do's"—Trouble Shooting.

Part 2. Specifications of 44 Engines: Class, Bore, Stroke, H.P., Weight, Props, Fuel, etc., etc.

Part 3. Blueprints & Instructions for building two engines.

Part 4. Directory of 57 model engine manufacturers.

Part 5. Instruction sheets for 50 different engines.

Part 6. Dictionary.

**DEALERS:** Order from us or your nearest jobber: Ace Model, St. Louis • Arrow Novelties, Cleveland • W. F. Auler, Milwaukee • Austin Craft, Burbank • Boone's Model, Jackson, Mich. • Bronco, N.Y.C. • Central Camera, Chicago • City Blue Print, Houston • Cor's, Washington, D.C. • Dallaire, Detroit • Reginald Donny, Hollywood • Goods Hobby, Dayton • Ed. Guth, Syracuse • Handicraft Hobbies, San Francisco • Handicrafts, Sacramento • Hobby Craft, Seattle • Hobby Land, Hackensack • Hobby Supply, Long Beach, Calif. • Hy-Grade School, Okla. City • Landau Book, N.Y.C. • Lloyds Hobby Craft, Toronto • Metro Modelcraft, Bklyn. N.Y. • Modelcraft, Dis. Co., St. Paul • Morgan Model, Los Angeles • Nat'l. Hobby Distr., Baltimore • Nat'l. Model Distrib., Chicago • Offenbach, San Francisco • Steve Patti, Milwaukee • B. Paul, Philadelphia • Polka, N.Y.C. • R. E. Ruth, Buffalo • Skyway, Bklyn. N.Y. • Trost Model, Chicago • Tryman, N.Y.C. • Universal Model Supply, N.Y.C. • R. L. Webber, Chicago.

**GAS MODELERS—HOBBYISTS—**  
**HERE IS THE ONE BOOK YOU CANNOT DO WITHOUT! 150 PAGES CHUCK FULL ABOUT GAS ENGINES!**

**FULL PRICE ONLY \$1.00 Postpaid**

This beautifully printed and illustrated book of 150 pages tells all about the theory and practice of model gas engine operation. It also includes specifications of 64 engines, and diagrams and individual instruction sheets for 50 different engines.

Even if you haven't an engine this book will teach you all about them so that you will be ready for the post war boom in Model Aviation.

### 83 Pictures, Cuts and Diagrams

**HERE IS A BOOK YOU CANNOT DO WITHOUT. See your dealer or SLIP A DOLLAR BILL IN AN ENVELOPE AND WE WILL RUSH THE BOOK TO YOU POSTPAID.**

**JOBBERS & DEALERS—Write for Discounts**

**FREE! ILLUSTRATED CATALOG OF HUNDREDS OF HOBBY ITEMS**

**AMERICA'S HOBBY CENTER—DEPT. MM16—156 W. 22 ST., N. Y. 11, N. Y.**

## Design Forum

(Continued from page 17)

still more compared to the orthodox airplane. The design of wing tips is very important when considering low drag. Tip whorls caused by improper tip design create great drag which are eliminated usually by making the tips with small chord, rounding them carefully and thinning down the airfoil section. Sometimes they are washed out or given a slight negative angle. In this case they are reduced by attaching the tail booms to the wing at the extreme tips. This prevents the whorl effect due to tip spill and insures a more even flow over the wing throughout its span. It has the usual features of retractable landing gear and flaps.

So we see the dominating theme of this design is high speed, and it surely is fast. Now let us consider whether this quality has been obtained at the expense of other necessary performance characteristics. When a designer lays out his ship for excessive speed his first thought, on the other hand, is can he land the craft; can he fly slow enough to get back to earth safely? Mr. Henkel has endeavored to assure the pilot on this score by providing extendable wing tips for landing or for added lift in climb or at high altitudes. These retract to reduce head resistance at high speed. Undoubtedly these will be effective to some extent, though the increase in area in the design is comparatively small.

By careful designing it is possible to make the retracting sections of the wing even larger so they will be more effective. Slow landing speed will also be assured by the main lifting surfaces of low aspect ratio because low aspect ratio wings give greater lift for landing. Wings of circular form, for instance, give twice as much lift for landing as wings of high aspect ratio and equal area. Thus we see that Henkel has designed his ship aerodynamically to give the necessary performance characteristics of high speed, climb, ceiling and landing speed.

The next thing to consider is whether the airplane can be controlled throughout its performance. Two things influence maneuverability; 1, distribution of weights; 2, effectiveness of control surfaces; each one reacting against the effect of the other. To maneuver quickly weights must be centralized. If far apart, it is difficult to rotate the ship quickly about any one of its axes. The rotating effect is created by the control surfaces, so we see that with the weights centralized smaller control surfaces may be used. The greater the efficiency of the control surfaces the smaller they may be. With this layout it is difficult or practically impossible to use the common type of aileron for lateral control unless the flap is reduced to ineffective size—Therefore, Henkel employs spoilers or sections of the upper surface of the wing that may be raised to break the air flow over the wing surface and thereby reduce or completely kill the lift on the wing.

When used as ailerons, these spoiler ailerons are raised one at a time to reduce lift on one wing and create a rolling effect about the longitudinal axis. It is questionable whether spoilers of this design will be satisfactory. They reduce the lift considerably and often completely, but they do it suddenly without any graduation from zero to maximum effect. Often spoilers will be raised to a certain degree without any effect whatsoever, and then when raised only one or two degrees more they suddenly produce their

(Tura to page 78)



# 5 BOOKS THAT WILL DELIGHT ANY MODELER AT

# Christmas



Here's the ideal Xmas gift for your airminded son or friend! There's nothing will make his holiday more cheery than a collection of WYLAM's Masterplans . . . C. H. Grant's treasured instruction volume . . . 21 complete gas model plans by Stahl, Ehling, Struck, Shulman, Lanzo, Weathers, etc. . . or detailed plans, instructions for building 16 flying scale military planes!

## MODEL AIRPLANE DESIGN

528 Pages 205 Diagrams and Plans  
"2 Great Books in 1"

### 1. Complete Instructor on Model Flying

This comprehensive book by C. H. Grant teaches ANYONE to produce consistently fine fliers. Excellent for either beginners or advanced.

### Answers 1,000 questions:

What wing section to use.  
How large to make the stabilizer . . . the fin.  
What center of gravity is . . . and how to find it.  
And hundreds of other problems!

### 2. Basic Trainer for Aviation

Flight fundamentals are so thoroughly discussed that this authoritative work is recognized by Schools, Libraries and thousands in Air Forces and Aviation Industry. No other book affords better groundwork for aeronautics.

Complete \$3.75 postpaid

## AIR AGE GAS MODELS

CREAM of Star Performers in one book! 21 complete Gas plans plus photos, full details, Sectional, National and International Winners by:

Stahl	Ehling	Murray
Struck	Conant	Struhl
Shulman	Schwab	Weathers
Talbi	Simmons	Abzug
Lanzo		Evalenko

Plans are clear, sharp, accurate. Full descriptions for building with A, B or C motor. Some Control-Line and Tailless construction. Also, fascinating instructive articles, suggestions. Postpaid \$2.00.

These five books are on sale at your favorite model and book shop . . . or direct.

**AIR AGE PUBLICATIONS**

## WYLAM BOOK 1

THE original and now famous first book of Wylam's Masterplans! Incorporates brilliant selectivity and attention to detail. Includes 14 perfect 3-views, 7 layout plans of 21 famous U. S. and foreign planes; 3 plans and text instructions for Grumman F3F-1 and 2, Douglas O-46A, and Hawk 111-C; 3 of the much prized Wylam Engine Plans, Cyclone, Whirlwind and Twin Wasp Jr. . . all with detailed plans and text instructions. Price \$1.50.

## WYLAM BOOK 2

ANOTHER complete Wylam work sparking with "gems of realism" in scale model working drawings. This famous designer's execution is perfect . . . and he omits no detail on the big ship of engineering interest or significance. Yet so simple.

fed are his Masterplans that a welter of "exhausting" original detail is cleared away. Includes full plans for: Wright Bros. Original Flyer, B-29, Airacomet, Northrop A-17A, Lycoming R-680 Engine, Black Widow, Martin A-22, Thunderbolt, Marauder, Vought Vindicator, Avro Lancaster I, Air Bombs, B-24, B-17, Fokker G-1, Mustang, World War I-SE-5, Mitsubishi OB-01, PBV-5A Catalina, P-40 Warhawk, Grumman F6F-3 Hellcat, Curtiss Helldiver. Price complete only \$1.50.

## FLYING SCALE MODELS

BEAUTIFUL new collection of detailed plans, photos and complete instructions for building SIXTEEN flying scale military planes. Designed by America's foremost flying scale modelers: Stahl, Weiss and Struhl. Also propeller design data and helpful construction hints. \$1.50 complete.

## SPECIAL XMAS GROUP OFFER

All 5 books in this model aeronautic library will be sent for only \$9.00 postpaid—a saving of \$1.25—to any address in the world!

### COUPON

1-46

AIR AGE INC., 851 Fifth Ave., New York 17, N.Y.

Send postpaid a new edition copy of

{ } Wylam Book I	\$1.50	{ } Air Age Gas Models	\$2.00
{ } Wylam Book II	\$1.50	{ } Model Airplane Design	\$3.75
{ } Flying Scale Models	\$1.50		

☐ Send all 5 books for only \$9.00 (saving of \$1.25)

NAME

ADDRESS

CITY

STATE





# Announcing Dura-plane

A control line flying model that flies and controls perfectly every time with any large B or standard C motor.

Licensed  
under  
Jim Walker's  
U-Controlled  
#22924161

## SCIENTIFICALLY DESIGNED . . .

DURA-PLANE is made of tough, laminated plastic, molded to master patterns that positively insure flyability, controllability and durability. No guesswork, no risk, no disappointments. Every DURA-PLANE is a sure flier that answers every touch of the controls as if a pilot were in the seat.

**NOT A KIT.** Any novice can assemble the DURA-PLANE with a screw driver in 15 (less motor installation and paint) minutes and KNOW that it will fly. Why lose time? Why spend many hours in building a model only to have it crash as soon as you turn it loose?

Every DURA-PLANE is a sure flier the first time and everytime. Motor, batteries and all accessories may be mounted on a quick-removable motor bracket; remove and replace your power unit for tuning, adjusting, etc., in a few minutes; interchangeable spare parts, wings, fuselage, motor supports, etc., quickly available and easily installed.

**ESTABLISHED RETAIL PRICE . . . . . \$19.50**

**AERO PLASTICS COMPANY**  
6243 South Manhattan Place, Los Angeles 44, California

..... See Page 77 for Special Offer—5 Books that Will Delight Any Modeler at CHRISTMAS!



## FLASH!

## HOT!

## MODELERS!

**DEALERS-JOBBERS!**

**CHAMPION MODEL AIRPLANE COMPANY**

P.O. BOX M868

WE HAVE JUST BEEN APPOINTED EXCLUSIVE DISTRIBUTORS BY THE KENCRAFT CO. FOR THEIR PRODUCTS IN ARIZONA, CALIFORNIA, OREGON AND WASHINGTON.

That's the new KEN 610 Ball Bearing-Superior Turbo Valve Racing Motor. The finest for cars, boats and planes. Super power and stamina \$32.50.

WRITE FOR SPECIFICATIONS

WRITE FOR COMPLETE DETAILS AND PRICE LISTS.

**SANTA ANA, CALIFORNIA**



maximum effect. Furthermore, this often occurs at different angles of the spoiler, all of which is very disconcerting to the pilot. In other words, spoilers in their present form are tricky and not entirely reliable for maneuvering. Some airplanes perforate the spoilers with a series of holes so that when they are raised the air sifts through them. These are provided to reduce the sudden spoiler reaction mentioned above and to provide a more graduated spoiler effect. If Henkel can equip his plane with spoilers that will give a graduated aileron effect his design shown here is practical. With normal present day spoilers lateral control would be unsatisfactory.

Longitudinal control is governed by the stabilizer and elevators and is proportional to their distance from the center of gravity and their area. The design shown here is excellent in this respect. Directional control also will be satisfactory because the rudders are placed well to the rear of the c.g. Weights are concentrated so the elevators and rudders will be opposed to very little extent by the inertia of the craft.

The next step is to build the plane with these aerodynamic features. There will be no difficulty in constructing the pilot and engine compartments, the large center wings, the flaps, spoilers, booms and landing gear. These are more or less orthodox, and light structure can be provided to take care of any stresses involved in this design. However, at this point customary practice ends and we go into the realm of trick construction.

For instance, how are the retractable wing tips to be worked out? These must slide out easily without jamming. On the ground this would be a simple problem but in the air, with air loads on the tips as they are being extended, the situation is complicated. Part of the extended tips must remain within the main wing to absorb the bending moments due to loads on the tip. These bending moments are transmitted to the sliding track on which this must operate and to the rollers which run in this track. These in turn are transmitted to the structure of the main wing tending to split open the wing by prying the upper surface away from the lower. Consequently a structure of considerable strength and weight must be employed, and it is a question whether there would be any advantage in the extended wing tip because the added lift would be largely neutralized by the increase in structural weight and drag of the tips.

If the area of the tips were increased in order to increase their effectiveness, the stresses imparted to the main wing structure would also be increased with greater resulting weight.

Experiments with this type of device so far have not been satisfactory. Many arrangements have been worked out but have been discarded because the increase in the weight and added mechanical complications have outweighed its advantages. If a designer can work out an arrangement that will give much greater lift with very little increase in weight, such retractable wing tips would be an advantage. Henkel, however, has not indicated any unusual features in his retractable wing tip design.

The next structural feature of doubtful design is the horizontal tail surfaces. These are of very large span and very small chord. The pressures resulting from maneuvers in flight would buckle this surface easily. Their thickness is governed by the chord and is seldom

(Turn to page 80)

## FAST SERVICE FOR WESTERN DEALERS

### DAVIES DOPE

THE MOST COMPLETE LINE OF  
MODELMAKER'S LIQUIDS  
IN THE COUNTRY



Colors, Filler, Primer-Sur-  
face, Clear Gloss Dope  
1 oz. .10  
2 oz. .17  
4 oz. .30  
Half pints .50  
Pints 1.00

COLORS—RED, WHITE,  
SKY BLUE, MED. BLUE,  
DARK BLUE, BLACK,  
YELLOW, ORANGE,  
CREAM, SILVER, LIGHT  
GREEN, DARK GREEN,  
LT. GRAY, DK. GRAY,  
MAROON, OLIVE DRAB,  
LT. BROWN, DK.  
BROWN.

#### THINNER, CEMENT, CLEAR DOPE

1 oz. .10; 2 oz. .17; 4 oz. .25; 8 oz. .40;  
Pints .75.

\$1.00 MINIMUM ORDER  
ADD 20c SHIPPING CHARGE FOR EACH  
\$1.00 WORTH OF DOPE

## IT'S NEW!!

# THE VIVELL "SUPER 35"

WITH PLEASURE WE AN-  
NOUNCE A NEW VIVELL  
MOTOR—THE "SUPER 35."  
GREATLY ENLARGED PORTS  
—2000 TO 3000 MORE R.P.M.

#### PROMPT SHIPMENT

Send stamp for  
circular

ADD 45c SALES TAX ON  
CALIFORNIA ORDERS

**.35 CU. INCH DISPLACEMENT—CLASS C**

**SEE YOUR DEALER FIRST**

DEALERS WRITE FOR OUR  
LARGE WHOLESALE LISTS



PRICE  
\$18.25

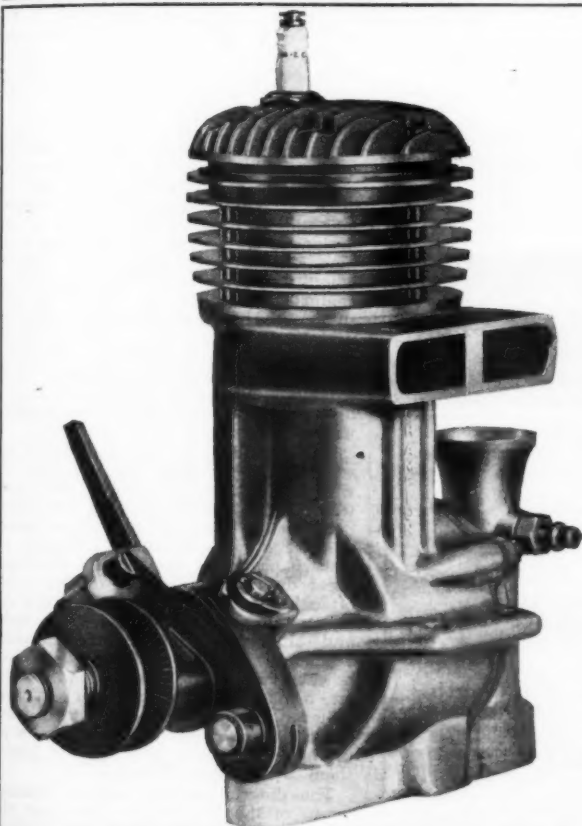
post-  
paid

# HOBBYCRAFTS

1023 TWELFTH ST.

DISTRIBUTORS

SACRAMENTO 14, CALIF.



## THE CHAMPION

### 1946 Model "C"-60 Engine

The new Champion engine incorporates all the fea-  
tures that made the pre-war model a leader in the  
model airplane, boat, and race car field, PLUS the  
following postwar improvements:

1. Hi-compression head—better cooling, more power.
2. Spray-bar type needle valve—ratchet lock insures correct positive adjustment.
3. Improved timer—smoother action.
4. Crankshaft, rotary valve, wrist pin, cam, prop nut, and washer hardened and ground—for long life.
5. Oilite bearings in crank case and connecting rod—less internal friction.

Machined dural rods are now available  
for race car operation, Price, \$1.50

SEE YOUR LOCAL HOBBY DEALER

Price  
**\$23.50**

Includes gas tank  
assembly, coil,  
and condenser

## ATWOOD MOTORS

279 West Valencia  
BURBANK, CALIF.

Backed by 17 years experience in the design  
and manufacture of contest-winning miniature  
motors.



# YOUR DEALER HAS IT!

## Central's Complete 44-Page Guide For Model Fans

The Central "Model Maker's Guide" is 44 pages jam-packed with information on America's finest models—planes, military vehicles, boats, supplies, etc. . . . products of foremost manufacturers. You can get the "Guide" now at your Authorized Central Dealer, for only 15c. Use it to choose the models you want . . . then check with your Authorized Central Dealer. He has or can get the items listed in the Guide. Get your copy today!

Listed below are a few of the new top models Central now has available for dealers. Keep in touch with your dealer for all the latest models.

**CENTRAL'S  
MODEL MAKER'S GUIDE**  
COMPLETE LISTINGS OF SELECTED MODEL MAKER'S MATERIALS

MODEL AIRPLANES  
MODEL BUILDERS ACCESSORIES  
GLIDERS  
GAS MODEL PLANES  
MILITARY VEHICLES  
BOATS

15c

MERCHANDISE LISTED IN THIS GUIDE  
IS AVAILABLE AT  
**YOUR MODEL STORE**  
YOUR CITY

Complete Line of Models • Plans • Books • Military Vehicles  
Accessories and Supplies

Authorized  
CENTRAL  
DEALER

## NEW FAVORITES NOW AT YOUR CENTRAL DEALER

### American Model Engineering Company

#### BUZZ Control-Line Model

Here's a real gas-engine sensation worth seeing and mighty worth owning! This sleek, speedy American Model plane has been officially clocked at speeds topping 110 miles per hour! It's easy to build. The fuselage is hollowed out. Complete kit sells for \$8.95. Other popular American models include the Miss Behave at \$3.95, and the Baby Miss Behave at \$2.65.

#### Miniature Ship Models SHIPSHAPE DUO-KIT

Here's a kit including the deadly Nazi "Robot" Bomb and the Japanese "Baka" Bomb—two World War II trophies you'll want to own. All balsa, and easy to build. The complete kit for making both sells for only 60c. Other Miniature Ship Model items include the 4-stack destroyer model, complete with plans, for \$1.50; and the 2-stack Mayo class destroyer, with complete kit including plans, for 65c.

### Hobby House HIGGINS EB-1 Helicopter

Presenting the latest marvel of aviation in a thrilling precision detail flying scale model! It climbs vertically, flies in any direction, and hovers, indoors or out. Has a 26" rotorspan. Variable pitch torque propeller. The complete kit includes over 100 parts, with full-size drawing, instructions to build and fly, etc., \$3.50. Also, the Sikorsky R-5 Helicopter kit, selling at \$3.50.

### West-Craft SUPER SCOUT CAR and SUPER JEEP

Just out—a new Super model of the Army's famous Scout Car. It's a beautiful example of real scale perfection. You'll find it just as amazing as the popular Super Jeep model. Kits for both include all needed parts and finishes, with easy-to-follow picture instructions. Each kit complete for \$2.50.

WHOLESALE HOBBY DIVISION

**CENTRAL** Camera Company

228 S. Wabash Ave., Chicago 4, Illinois

HEADQUARTERS FOR FINE MERCHANDISE SINCE 1899

### 21 A-B-C GAS JOBS by TOP DESIGNERS!

Get your copy of "AIR AGE GAS MODELS!" Complete plans, photos and instructions; also helpful hints for all gas modelers. Only \$2.00 at your model or book shop, or direct from Air Age Inc. 351 - 5th Avenue, New York 17 (SEE PAGE 77)



### AIRCRAFT CARRIER 36 inch length

Construction details: Hollow hull with water tight bulkheads mounted on main keel. Planked flight deck. Model completed has all scale details of the large ship including guns, life rafts, boats, three types of aircraft in miniature, etc.

Kit contains more than enough material to build model including three tubes cement, metal tubing and sheet, wire, varnish for hull and deck, four colors of paint, brushes, sandpaper, blade for cutting, etc.

Full size plans. Price complete

Order from your dealer or direct

**DUMAS PRODUCTS, 4340 N. Wilson Drive, Milwaukee 11, Wisconsin**

**\$6.95**  
Postage, \$25

greater than 1/6 the chord. With such a proportion, the tail surfaces would be so thin that they would have to be of nearly solid metal to withstand the pressures on them. The bending moments at the center would be tremendous. With such massive structure the weight would be excessive and on the whole sufficient to eliminate any consideration of this kind of design.

To provide stabilizer and elevators of satisfactory proportions the booms would have to be closer together so that their support on the stabilizer would be more centralized. At present the span between them is about twice too large. To move the booms inward, of course, would destroy the tip design of the wing unless wing tip plates were provided. It is suggested that they be moved in close to the propellers and that the stabilizer chord be increased 2 to 2 1/4 times. This will bring the supporting points at the stabilizer within reasonable distance of one another so that the tail is strong and light. However, this brings us other complications. The booms must be attached to the wing where the flaps are shown at present. Therefore, the flaps would have to be divided into two sections, an inner and outer section.

With these changes and with a practical retractable wing tip design, this plane would give unusual performance and would be adapted to speeds within the range of compressibility (500 mph or more) provided the wing section is designed for this high speed with a sharp entering edge.

Joseph J. Karr of 2958 NW. Upshur Street, Portland, Ore. sends us the design of a wing arrangement which he believes will be extremely strong and very light. He says that because of the upward slant of the lower wing, an airplane with this wing design will make a turn with very slight bank, thus turning more quickly than other wing designs and without slipping. He also claims this gives the airplane much greater stability.

First let us consider the design in light of aerodynamics. Such an airplane unquestionably would be very stable laterally, and if the wings are staggered and arranged with a decalage it will be stable longitudinally. However, a ship of this design banks just as much as any other plane and in fact possibly more, because when turning the increase in pressure against the outer wing would be very sudden, so that the plane would be thrown up into a bank quickly. This would fulfill Karr's claim of quicker maneuverability and elimination of skidding. Such a plane would be inherently stable to a high degree and probably could be flown without ailerons.

This would be gained however at the expense of efficiency, because with the wing tips joined and close together there will be great interference of the airflow between the wings at this point. Every possible step is taken to eliminate air disturbance at the tips because this causes great drag and a loss of efficiency and often induces spinning. Tips of this design would provide an excellent air brake and churn up the air tremendously. Efficiency could be increased greatly, however, if the tips were joined so there was a space, between the lower and upper wings at the tips, equal to the wing chord. This could be done by curving up the tip of the lower wings sharply and joining them to the upper wing tips.

The diagram shows several arrangements of the two wings. The most efficient (Turn to page 82)

# The EPIC HELLESPONT

**26" length 24" span. • So easy to build—so easy to fly**

★ New automatic rudder control—(flies in 35 mile winds).

Built for "C"; flies well with "B" motors.  
Operates well 5000 feet above sea level.

★ Motor and all accessories easy to inspect and service.

Cowling design runs engine extra cool.  
Rubber wheels 2½ inch diameter.

★ All Balsa planked—no paper or cloth cover.  
Printed ribs and bulkheads.

Generous supply balsa, wire, liquids, etc.

★ Specially accurate plans, drawings and instructions.

★ Normal "unsouped" speeds 75 miles per hour up!  
A good steady flier—not tricky.

**FLY THE BEST - FLY EPIC MODELS**



**\$8.50**

Plus 30c wrapping & postage

**T**HE HELLESPONT is the first of a line of QUALITY model aircraft kits. It incorporates features the model builders have proven successful and desirable from the standpoints of easy construction, easy servicing and much flying without mishap. The HELLESPONT, considering the fact that it is so easy to fly, is remarkably fast.

This fully-practical Control Liner is available at your dealer or direct from the factory. Cash with order will receive mailing preference.

**BY THE BUILDERS**

**EPIC MODELS**

**FOR THE BUILDERS**

**214 So. Reymond St.  
Las Cruces, New Mexico**

## Don't You Believe It! . . .



## Test With Thrust-O-Meter!

Why be in doubt as to which racing propeller, super-duper fuel, or sensational gadget will increase the performance of YOUR engine? Let "THRUST-O-METER" give you the inside dope on all of them. It can be easily clamped into a vise or bolted directly on your work bench, ready to calibrate the thrust exerted by your engine with ANY new improvement. Not a toy, but a scientific instrument, constructed of sturdy aircraft metal.

Two sizes (with adapters) take almost any engine. State make. \$5.95  
Here at last, is a handy ignition booster "DU ALL" case (shown in background.) Just put your booster batteries in (already has coil and condenser wired in) and use it to bench test your engine. On the field, warm up your engine, throw a switch, and just use the boosters. All equipment is enclosed, eliminating the splattering of batteries and poor connections. IT'S NEW! IT'S HANDY! \$5.95

ALL METAL CONSTRUCTION less coil and condenser. \$3.50

New solderless connections and positive contact, make the "HOL-TITE" IN-LINE battery cases best for flying. Small, medium and large sizes. The large size can be used with the "Ideal" wet cell. \$6.00

Watch for new Winn-Craft product at your local dealers. If none near you, write direct. Dealers' and jobbers' inquiries solicited.

WINN-CRAFT WILL HELP YOU WIN Dept. A. P.O. Box 1491  
Glendale, California  
Winn-Craft Industries

# RUBBER - RUBBER - RUBBER

## 1/8" FLAT-PRE-WAR QUALITY-NON-SYNTHETIC

### 3c per Foot

This excellent pre-war quality 1/8" flat rubber is just what you have needed to get proper performance from your flying models. Non-synthetic. Send \$1.00 and we will ship you 33 feet by return mail postpaid. Order all you need now!

DEALERS: Write for wholesale rubber prices.

**FREE!!** 40 PAGE  
HOBBY CATALOG  
Over 1000 Items—Over 300 Photos

Our new 40 page retail catalog is the "bible" of widsawake modelers. Hundreds of models to choose from! Planes, engines, boats, jeeps, tanks, gliders, supplies, etc. Send for yours today!

## AMERICA'S HOBBY CENTER

156 West 22 St.

Dept. MR 16

New York 11, N.Y.

**528** PAGES

**205** DIAGRAMS  
& PLANS

## "Model Airplane Design" by C. H. Grant

### THE COMPLETE INSTRUCTOR ON MODEL FLYING!

Only \$3.75 at your favorite model or book store . . . or order from publisher, Air Age Inc., 551-5th Av., New York 17.  
(SEE PAGE 77)

**MR. DEALER**

order now from your jobber.  
HANDLED BY:

**SNAFU** 2 PC

Plus 5c postage, beautiful die-cast universal, threaded.

**WHEELS** 23/8", 50c Pr. plus 10c post-are, keeps lines from snarling, easily assembled.

**TETHER KITS** \$1

**"75" PROPS** 75c Postage Die-cast, universal, over-stressed, adjustable pitch, ebony plastic.

**ERCOUPE**

Austin-Craft, Arrow, American's Hobby Center, Bronco, Carolina Model, Central-Camera, Corr's, Cruess & Sexauer, Dailaire, Dealer's Hobby Supply, Ed Guth, Edoco, Faulkner's, Germantown, Handicraft Hobbies, Hobbycrafts, Hobbyland, Holcomb, H. F. Auler, Modelcraft Distributors, Model Aircraft Co., Model Airplane Associates, Mod-Kraft, National Model Distributors, Offenbach's, Polk's, Roy C. Stage, Steve Patti, Stewart Model Products, J. Spokane, The Hobby Counter, Trost, Tuthill Photo, Washington Electronic, R. L. Webber, Western Model Distributors, Western Wholesale Hardware, and many others.

## SNAFU-BOX 1948-HOLLYWOOD 28-CAL.

cient one is No. 3 with the two wings staggered equally throughout the span. A plane built with wings of this type would be very interesting, and incidentally would be very stable laterally and longitudinally. It would be reasonably efficient provided pains were taken to design the wing tips so that interference between the two wings is reduced to practical limits.

We welcome designs and ideas from readers and will select for publication those which are most interesting and presented in the neatest form. We only wish all could be printed, but obviously this is impossible. Send your entries to "Design Forum," c/o MODEL AIRPLANE NEWS, 551 Fifth Ave., New York 17, N.Y.

## Plane Drafting

(Continued from page 36)

airfoil and the wing tip airfoil have been derived from a basically similar airfoil, although a 3° angle of washout is included in this hypothetical wing. Station lines at each ordinate in this example may be drawn as in Fig. 2. Washout or washin of the wing tip in model airplane wing constructions makes the use of accurate jigs mandatory.

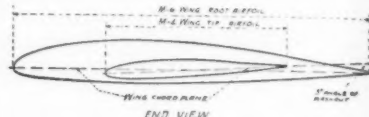


Fig. 3 Wing with tip washout and taper

The chord length of intermediate wing ribs may be obtained by accurately drawing the basic wing root chord plane and the wing tip chord plane to a specific scale in the plan view. The position of each wing rib between the two primary wing chords is known and is located by means of a table of offsets. The actual length of the intermediate wing rib may then be obtained by scaling.

Refer to Fig. 4. The airfoil section for that wing rib may be developed in a manner similar to that shown in Fig. 1. The same ordinates are used for the intermediate wing rib as those for the basic wing root section airfoil, provided the same airfoil is used along the semi-span of the wing. Where close tolerance for the exact length of an intermediate wing chord rib is desired, the length may be obtained by solving the equations A and B. Note in equation A that a factor K is developed. K represents the ratio of the distance the centerline of the intermediate wing rib is located from the basic wing root chord to the dimension of semi-span of the wing. Equation B is solved in the conventional manner, the solving of which will give the chord length of an intermediate wing rib.

(Part 4 will appear in the February issue)

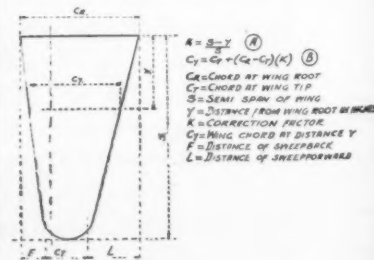


Fig. 4 Calculation of intermediate rib length



# WE STILL HAVE THEM!

AND CAN SHIP SAME DAY! You don't have to give second choices.

**FREE RUBBER!!**

We give you free rubber with every flying model—Non-synthetic, pre-war quality. Ask for it when ordering!

## UNCONDITIONAL GUARANTEE!

America's Hobby Center offers you something no other hobby store does!! If the item does not suit, just return it postpaid and unused and send us another order to replace it. All it costs you is the extra postage

## NO PICTURES??

Don't Forget!! Ask for free rubber!

In order to include more items, we don't illustrate. Most of these items are pictured elsewhere in this magazine or in our FREE catalog of hundreds and hundreds of hard-to-get hobby items

### Rubber Powered Flying Models

18" Speedomatic Kits—25c ea.  
P40 • Zero • Mustang • Wildcat • Focke-Wulf • Helicopter • Airacomet • Thunderbolt

25" Scientific Flyers—35c each  
Windsor Bantam Royal  
Hornet Ranger Major

Scientifics—50c each  
Wildcat 25" Vulture 25" Clarion 30"  
Yellowbird 30" Bullet 30" Warhawk 25"  
North Amer. 25" Bell Aero 25" Whippet 30"

32" Ott-O-Former—50c each  
Typhoon Airacobra Stuka  
Spitfire Wildcat P38  
Vought

Banner Sportsman 30" 50c  
Comet Piper Cub Cruiser 50c

20" Speedomatics—50c each  
Dauntless Stormovik Avenger  
Vengeance Spitfire Corsair

30" Capital Values—65c each  
Lockheed P38 Mustang Corsair  
Wildcat Spitfire Curtiss P40  
Piper Cub Devastator Taylorcraft

Special Values—\$1.00 each  
Curtiss P42 30" Buccaneer 30"  
Curtiss Diver 30" Rep. Thunderbolt 30"  
Brewster 24" Amer. Ace 30"  
All American 45" Oriole 50"  
Grasshopper 30" Mustang 30"

Berkeley Values—\$1.00 each  
Hawker 30" • Vought 27" • P40 28"  
Airacobra 27" • Thunderbolt 24"  
Messerschmitt 27" • Vulture 27" • Buffalo 24"

40" 45" Ott-O-Former—\$1 each  
Mustang • Curtiss O52 • Vulture • Spitfire • Helicat • Avenger

H&F Combat Kits—\$1.00 each  
Vought 37" • Stuka 40" • Ryan 50"  
Piper Cub 30" • Scinson 50"  
Skyfarer • Monocoupe • Ercoupe

24" Speedomatics—\$1.00 each  
Mustang • Thunderbolt • Helicat

Banner Executive 40" \$1.00  
Taylorcraft 54" 1.25

Cleveland 3-footers—\$1.50 each  
Mustang—Piper Cub—Messerschmitt—Spitfire—Airacobra—Black Widow—Hurricane—Whirlwind—Lightning—Warhawk—Typhoon

Taylorcraft 54" \$1.25 Miss World's Fair 50" 1.50  
Parachute Plane 40" 1.50 Fies 30" 1.75  
Ray Rocket 1.35 Miss America 40" 1.75

Cleveland's Super Values  
\$3.00: Brewster, Wildcat, P40, Messerschmitt, Mustang Apache, Airacobra, Spitfire, Hurricane, Focke-Wulf, Zero  
4.50: Mosquito, 7.50: Lockheed Bomber, 8.50: Marauder, B35 Mitchell, A20 Boston, 12.50: Flying Fort.

ADD 15c TO YOUR ORDER IF UNDER \$1.25 IF OVER for postage and packing. Or send \$1.00 and we ship express collect COD.

Free! 40 page illustrated catalog. Full of hobby items—hundreds and hundreds of them.

### GAS ENGINES

Includes Coil & Condenser

Thor (B) \$9.50  
G.H.Q. (C) \$9.95  
H.Q. & Accessories (C) 20.00  
Virell (C) 21.50  
Hurricane (B) 24.95  
Rocket (C) 24.00

### GAS MODEL BOATS

Complete with prop, couplings, shaft, stuffing box, collar, cement, etc.

Hawk 27" \$5.50  
Sea Bird 24" 8.50  
U-B-O Gee Racer 28" 10.00  
Marlin 26" 10.00

Complete Line of Boat Fittings

### GAS MODEL PLANES

Zombie AB \$1.98  
Westwind B 3.85  
Rocketeer A 3.95  
Jiffy A 1.50  
Ercoupe C 12.80  
Miss Tiny A-B 3.25  
Brigadier B 2.98  
Buccaneer B Spl. 3.98  
Am. Ace B 3.98  
Super V B-C 4.25  
Stratos A 2.98  
Tiger Shark C 4.95  
Interceptor B 2.98  
Bklyn Dodger B 3.95  
Munketter B 3.50  
Buccaneer B45 3.50  
Am. Ace A 1.50  
Munketter A 2.50  
Buccaneer 1.50  
Cavalier 60B 5.95  
J Javelin A-B 2.95  
Piper Cub A 1.50  
Miss Behave A-B-C 3.95  
Baby Miss Behave 2.65  
Tarpon B-C 10.75  
G 13 B-C 7.95  
Knight Twister A-B 7.50

Skylark A \$2.75  
Tether Sharpe A 1.00  
Vanguard C 5.50  
Ensign B 3.50  
Stratostreak A 3.50  
Dreamer A-B-C 7.50  
Larky B 3.50  
Baby Shark A-B 2.98  
Vee-Gee A-B 10.00  
Rocket B 4.98  
Topper A-B 3.50  
Rocket C 10.00  
Spook B 4.98  
Pacer C 4.98  
Falcon Sport A-B 5.95  
Rocket Trainer BC 5.95  
Falcon B-C 5.95  
Playboy Jr. B 2.50  
Super Buccaneer C 8.50  
Mercury C 8.50  
Playboy Sr. C 4.50  
Tether Break C 3.50  
Coronet A-B 2.50  
Varsity B 1.98  
Bee B 1.98  
Buckeye Bld. B-C 5.98  
Ranger B 3.50  
Aero Champ A 2.00  
Vee B 2.98  
P47 Controller C 9.95  
Wog B 4.95  
Piper Cub "B" 4.50

### GLIDERS

Thermic 18" \$1.20  
Thermic 24" 1.50  
Comet Mustang 18" .35  
Eagle 48" .50  
Zenith 33" .50  
Trooper 33" .50  
Thermic "C" 34" .80  
Thermic 50" 1.00  
Condor 84" 1.00  
Sinbad 50" 1.00

### Swing CONTROL MODELS

A. J. Airacobra 19" \$1.25  
Cavacraft P40 or P38 13" 1.75  
Cavacraft P40 Kit 15" 1.90  
Super Fort B19 25" 1.00

### X-ACTO KNIVES

#7 (New utility knife) \$ .25  
#1 or 2 (1 handle and blade) .50  
#51 or 52 (1 handle, 6 blades) 1.00  
#62 (2 handles, 12 blades) 2.00  
#82 (3 handles, 12 blades, in de luxe chest) 3.50  
#83 (like 82 but all aluminum) 5.00  
TREXLER PNEUMATIC WHEELS  
2 1/2" pr. \$ .60; 2 3/4" pr. \$1.00.  
3" pr. 1.25; 3 1/2" pr. 1.50.  
4 1/2" pr. \$1.75.

### BOOKS

Model Gas Engine Handbook \$1.00  
Model Glider Design \$1.50  
Model Aircraft Handbook 2.00  
Model Airplane Design—Grant 3.75  
Bldg. Model Planes .25  
Radio Control Handbook .25  
War Planes of All Nations 3.00

Scale Models—Wylliam \$1.50  
Aviation Dictionary 3.50  
Youth in Aviation 2.50  
Ship Model Book 2.00  
Model Gas Engines 2.50  
Complete Model Manual 3.90  
Model Warplanes 3.75  
Gas Engine Theory .50  
Building and Flying Model Airplanes 2.00

### Other HARD-TO-GET Items

1/4" Flat Rubber 35 feet for \$1.00  
1/4" Timers: Austin \$1.50; Hillcrest 1.25  
Austin Tanks 50c; Winston Tanks .75  
Austin Batt. Box—Penlite—Medium—Large .50  
Extra Good Cement, 3 oz. 25c; pint .30  
Sponge Wheels, pr. 2" 45c; 2 1/2" 50c; 3 1/2" .75  
Dops—Most Colors, 3 oz. 25c; pint 1.00  
Tissue—Most Colors, 12 for .50  
Bamboo Paper—Blue, Green, White, ea. .10  
Universal Coupling (State engine) 1.25  
U-Control Wire (100 ft.) .75  
Modelers Plane .75 & 1.00  
Flywheel for any engine (specify) \$1.50  
Coil Holder .48  
Plug Wrench (size) .25  
Rechargeable Fluid .80  
Plug-Points Gauge .15  
Paper Battery Box .18  
Winston Spark Coil 1.80  
Ignition Specialist: Coil, condenser, plug, extra washer  
Batt. Box, coil holder, 8 ft. wire, gauge set. All for \$3.00  
Send for list of gas engines in stock

### SOLIDS

#### Master Solids—50c each

Curtiss P40 • P38 • Vought Sikorsky • F-W  
Wildcat • Skylark • Stormovik • Airacobra  
Spitfire • Thunderbolt • Boulton Paul  
Vulture • Zero • Mustang • Heinkel • Helicat

#### Master Solids—\$1.00 each

Messerschmitt—B29—B17—B25—Douglas B18—  
Helicat—P47—Skylark—Lockheed P38—Spitfire—  
Mitchell—B29—P40—P51—Typhoon—Helldiver.  
Cadet B29 \$1.00  
Helicopter—Bolt—B29 79c & 1.75  
Autogiro—Constellation 79c & 1.75  
Flying Fort—P38—B29 2.00

#### Super Solids—\$1.50 each

Mosquito B25 Mitchell P38  
Douglas Boston Wildcat Spitfire  
Marauder B17 Thunderbolt

#### Super Solids—\$2.50 each

Wildcat Hawker Grumman F.  
Focke-Wulf Gloster Brewster  
Mustang Mitchell Curtiss B40  
Hudson Thunderbolt Airacobra  
Warhawk Messerschmitt Martin-Balt.  
Boulton Spitfire Superfortress  
Lockheed Hud. P38 BT14

#### Super Solids

Avenger \$3.00 Superfort \$3.50 P51 \$3.00  
Corsair 3.00 B-25 3.00 P47 3.00  
Marauder 3.00 B17 5.00 Helicat 3.00  
Stuka 3.00 P38 1.00  
Whirlwind 3.50 Liberator 5.00 Mosquito 4.00  
Lightning 3.50 Liberator 5.00 Havoc 4.00  
Typhoon 3.00 Kingfisher 6.50 Marauder 4.00  
Bk Widow 3.00 B17 7.50 Bk Widow 3.50

#### Military Solids

Jeeps 29c, 60c, \$1.25  
Super Jeep 2.50  
Amp'b Jeep 75, 1.00, 2.75  
Anti-Tank Gun .40  
2-Wheel Trailer .40  
2 1/2 Ton Army Truck 1.50  
Rotours Anti-Air 2.95  
Amphib. Truck 1.95  
1 1/2 Ton Army Truck 1.50  
Half-tracks 1.50  
Robot Bomb kit .25 .40  
Alligator Tank .39  
Scout Car \$1.50, 2.50  
Ace Truck 1.00  
Buildozer 1.25  
M4 Tank 2.50  
Covered Wagon 1.50  
Station Wagon 1.25  
Stagecoach 1.50  
Weasel 2.95

**AMERICA'S HOBBY CENTER**  
156 W. 22nd St.—Dept. M16  
New York 11, N. Y.

"FREE RUBBER WITH EVERY FLYING KIT"



## Complete Analyses of 12 Warplanes!

### GROUP I—FIGHTERS

- No. 1—LIGHTNING P-38
- No. 2—THUNDERBOLT P-47
- No. 3—HELLCAT F6F
- No. 4—WARHAWK P-40
- No. 5—CORSAIR F4U
- No. 6—MUSTANG P-51

### GROUP II—ARMY BOMBERS

- No. 1B—MITCHELL B-25
- No. 2B—LIBERATOR B-24
- No. 3B—B-15 and B-19
- No. 4B—FLYING FORTRESS B-17
- No. 5B—MARAUER B26
- No. 6B—SUPERFORTRESS B29

**E**ACH booklet presents—for the first time anywhere—the complete “story” of a world-famous warplane including:

- Detailed analysis of structure, mechanism, systems, equipment, armament and performance.
- Large, carefully scaled 3-view drawing with valuable cross-sections.
- Chronological history of successive models.
- Complete photographic history of the many modifications in design.

These Warplane Research booklets of the Air Age Technical Library contain material never before presented in such concise, authentic style—with many photographs never before published in any magazine! They give the most thorough treatment of the minute differences between the numerous models and special version of our latest WARPLANES ever made available to the public. Each booklet is chockful of little known data, hard-to-get facts, and rare detail drawings and photographs.

Start a collection of these valuable new works today! The Air Age Technical Library will prove your standard reference for accurate answers to any and all questions concerning Modern Warplanes! Thousands have been purchased by modelers, members in our armed forces, schools, libraries, etc. . . . Single copies, 25c each; all 6 in Group I for \$1.25; all 6 in group II for \$1.00; ALL 12 IN BOTH GROUPS ONLY \$2.00!

### ENTHUSIASTIC READERS WRITE—

“I think the Air Age Technical Library is the most important addition to the field of aircraft literature since the advent of the importance of airpower in modern life. The detailed history and construction of each plan is extremely helpful in model building.”—J.F.B.

“I have many aviation magazines (about 250) but fail to find in them a description as concise and accurate as yours on the P-38.”—W.S.

“These analyses are the clearest and most complete of our country's aircraft that I have ever seen.”—W.R.R.

“It is tops! I learned a lot that was new; and the plans are super.”—A.S.J.

“May I extend my compliments to Air Age, Inc. for the excellent work it is doing in promoting interest in the aeronautical sciences and preparing American youth to occupy their rightful place in the post-war Air Age. The Technical Library series is a most worthy contribution to the education of the coming generation of aeronautical engineers and technicians.”—E.J.T.

“These are very valuable in my study of aircraft recognition . . . Also, as an old model builder, they are an excellent reference for scale models.”—A/C R.K.W.

### Use This Coupon or Order on Separate Sheet

**AIR AGE INC.** 1-46  
551 Fifth Ave., New York 17, N. Y.

Herewith \$\_\_\_\_\_ for which please send me postpaid the following Air Age Technical Library analyses (at 25c each):

(circle the ones you want)  

1	2	3	4	5	6
1B	2B	3B	4B	5B	6B

OR

...subscriptions to Group I at \$1.25 for all 6

...subscriptions to Group II at \$1.00 for all 6

☐ subscriptions to BOTH Groups at \$2.00 for all 12

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

## World War I

(Continued from page 34)

Equally interesting is the fact that this performance was achieved on an airplane designed solely from an aerodynamic point of view. At the time the De H4 was conceived air warfare had not progressed to the point where aircraft could be designed to meet a specific functional requirement simply because such requirements had not yet been isolated and identified. This example of design for pure aerodynamic efficiency is contrasted to design for a specific function as described in previous articles dealing with the Bristol Fighter F2B.

Consequently, the De H4 was outfitted some time during its career for every duty conceivable to the Air Ministry. If a self defending reconnaissance machine were required in a certain sector, De H4s equipped with cameras were dispatched to the scene; and when a high speed bomber was required the “4” was sent merrily on its way, complete with make-shift bomb racks holding its lethal load.

### De Haviland 4 Design

As far as design is concerned, Geoffrey De Haviland actually set a precedent that was later taken up by all the powers when he evolved the De H4. He chose a power plant capable of about twice the output used in two seaters up to that time. In fact, 240 hp had not been made available to single seaters in 1916. The answer to that was the element of weight. Engines in the most efficient hp/wgt class still were just entering the 150 hp category, and no two seater up to that time had been designed to withstand greater stresses.

De Haviland also chose the then newly developed R.A.F.-15 airfoil section which had been developed by the Royal Aircraft Factory for use in “high speed” planes with a medium wing loading. The section was comparatively thin with a decided undercamber between spars which were located at the airfoil's two thickest points.

The completely enclosed fuselage with its occupants sitting in tandem was not a new innovation, but the fact that the gunner member of the crew sat in the rear seat was a new development. Gunners on previous types in service, particularly German, had been placed in the front cockpit because their job was to fire forward as well as broadside and to the rear. Greatest influence in the change of crew positions was the advent of the synchronized gun which eliminated the necessity for a forward firing observer. A synchronized gun was included in the original De H4 design, making it the first airplane of its type to carry such a weapon as standard equipment.

Much of the De H4's high performance was directly traceable to its comparatively low coefficient of drag. Much progress was made in this direction by simply placing the radiator in the nose of the fuselage, thereby permitting a minimum of cross-sectional area in the body. Previous water cooled engine installations had been cooled either by radiators located in the center section (a great favorite with the German) or by the type hung out in the breeze on each side of the fuselage. Location of the radiator in the nose had the additional advantages of an integral header tank, fewer feet of water plumbing, and further saved weight of water trapped in the plumbing.

A few months after the advent of the De H4, Rolls-Royce developed the famous Falcon engine and put it into production.

(Turn to page 86)

# BACK AGAIN!

*- And better than ever -  
the record-breaking*

## PHANTOM P.30

**MODEL ENGINE WITH MANY  
IMPROVEMENTS**

Here's good news for every plane builder and model sportsman who demands a record smashing model engine. The famous PHANTOM P. 30 is back again and better than ever.

Be one of the first to own a PHANTOM P. 30—champion of champions. Note the compactness, power, precision engineering and high quality built into the P. 30. Every feature offers more advantages for your model. Here's streamlined beauty of design—and appearance—more power, less weight, outstanding performance.

This latest addition to a long line of champions which has set many world's records in the toughest competition is available at an amazingly low price because it is **SOLD DIRECT FROM FACTORY TO YOU.** No in-between profits. **YOU SAVE THE DIFFERENCE.**

**ORDER NOW!** Start winning competitions with this **CHAMPION OF THEM ALL.** You will get a thrill from its amazing performance, its streamlined beauty and all-around dependability. **MAIL THE HANDY COUPON** for prices and detailed information.



One-fifth horsepower; 2 intake and 2 exhaust ports; 2-cycle engine. Entirely new design. Large rotary valve and improved principle of by-passing provide approximately 20 percent more power. New, improved timer. Crankshaft, specially ground and counter-balanced, provides less vibration, greater motor speed and longer life.

Clear-view, plastic gas tank with easy filler cap. Cylinder finished in gun metal. Aluminum crankcase. Sold complete with coil, tank and condenser. Every motor **SOLD UNDER A FACTORY GUARANTEE.**



### HOLDS OFFICIAL WORLD'S RECORDS

**Time in Air**—on October 1, 1938 PHANTOM broke the official world's record for time in air—2 HRS., 46 MIN., 43 SEC. **NON-STOP.**

**Air Miles Flown**—On the same date a PHANTOM-powered plane broke the official world's record for number of airline miles flown—55 AIRLINE MILES **NON-STOP.**

**Altitude**—Again on the same date, a PHANTOM-powered ship broke the world's altitude record—CLIMBED TO A HEIGHT OF 11,500 FT.

#### PHANTOM MOTORS

800 East Gage Avenue, Los Angeles 1, California

Please send me, without obligation, complete details and prices for your PHANTOM P. 30 Engine.

NAME

ADDRESS

CITY  ZONE NO.

STATE



# DEALERS XMAS SERVICE

**Complete line of Models, Flying and Solids; Modelcraft, Megow, Eagle, Falcon, Scientific, Ray Solids, Austincraft, RedYcut, Decals and Lots of Accessories.**

**BALSA WOOD**—40 Sizes of Strip—20 sizes of Sheet—Planks.  
Distributors for Air-O Props, 9" to 13", 50c each.

Rocket Motors, \$22.75, Postpaid.  
Vivell "35", \$18.25, Postpaid.  
O-K "60", \$24.25, Postpaid.  
Ohlsson "60", "23", "19"  
(as they are Available)

**BUNCH** Contester Engines "60"  
D60-S Side Port Intake, \$24.50.  
D60-R Rotary Valve, \$26.50.  
(ready about Jan. 1st)  
write for information

## Gas Models and Accessories

Control Liners—Dreamers, Falcon Speedsters, Falcon Sportsters, Vee Gee G-13s, Snafu ERCOUPE, Baby Miss Behave, Miss Behave, Knight Twister.

"Send for Gas Engine and Gas Model and Accessories List 'FREE'"

Testers Dopes & Cements  
Giant Tubes 10c & 25c cement.

Dealer write for Discounts

## ARIZONA MODEL SUPPLIES

Wholesale division of Webster's Hobby Shop

417 West Adams Street  
Phoenix, Arizona

## "CANADA'S"

**Largest & Most Complete  
Hobby Store**

Featuring  
**MODEL AIRPLANES  
MODEL BOATS  
RAILROADS  
NEW GAS ENGINES  
BALSA WOOD & SUPPLIES**

We Are Manufacturers, Wholesalers,  
Retailers

ILLUSTRATED CATALOGUE 25c  
DEALERS ENQUIRIES INVITED

**LLOYDS HOBBYCRAFT**

625 St. Clair Ave. W. Toronto 10, Ont.

## FUELS

**POWER MIST  
SPITFIRE  
BLUE BLAZER**

THE ORIGINAL MINIATURE ENGINE  
FUELS "PROVEN SUPERIOR"  
58 OFFICIAL WORLD SPEED RECORDS

OUR SIMPLEST FORMULA CONTAINS  
6 INGREDIENTS, CASTOR OIL LUBRICATED  
"NO GAS AND PETROLEUM OIL  
MIXES."

Supercharged & Fortified Castor Oil

**FUEL FACTS AND FORMULAS**  
How to determine the correct fuel. Full information  
and literature—at your dealer or send stamped ad-  
dressed envelope.

**FRANCISCO LABORATORIES**  
3787 Griffith View Drive, Los Angeles 26, California

**Now  
for EVERY WORK SHOP!**  
**"NEW  
Invention"** **Electroplates  
by BRUSH**



**Easy to Plate CHROMIUM  
GOLD, SILVER, NICKEL, COPPER**

... For Pleasure and Profit!

If you have a workshop—at home or in business—you need this new Warner Electroplater. At the stroke of an electrified brush, you can electroplate models and projects—you can replate worn articles, faucets, tools, fixtures, silverware, etc. with a durable, sparkling coat of metal... Gold, Silver, Chromium, Nickel, Copper or Cadmium. Method is easy, simple, quick. Everything furnished—equipment complete, ready for use. By doing a bit of work for others, your machine can pay for itself within a week. So make your shop complete by getting a Warner Electroplater right away. Send today for FREE SAMPLE and illustrated literature. ACT AT ONCE!

WARNER ELECTRIC CO., DEPT. G-85  
663 N. Wells St., Chicago 10, Illinois

**FREE Details & Sample!**

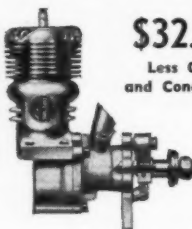
WARNER ELECTRIC CO., 663 N. Wells St., Chicago 10, Dept. G-85  
Gentlemen: Send Free Sample and Details to:

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_



**"The Design for Speed"**

For  
Planes  
Cars  
and  
Boats



**\$32.50**

Less Coil  
and Condenser

Displacement — .604 cu. in. — 10 C.C.

Get peak performance with "KEN,"  
the only ball bearing racing motor  
with TURBO-VALVING.

See your dealer today or write  
for descriptive folder.

**KENCRAFT COMPANY**

225 No. 7th St., Garden Grove, Calif.

It fell for the De H.4 to be one of the first ships to use it because no other airplane, except the still experimental Bristol Fighter, was capable of absorbing its 280 hp. Comparatively few Falcon powered De H.4s were built because of engine diversion to Bristol for the F.2 series, and in addition, because the De H.4 was being prepared for service as a day bomber. This operation required greater power, so the Rolls-Royce Eagle engine—built along the same lines as the Falcon but delivering 375 hp—was supplied for De H.4s.

Other engines fitted from time to time, particularly on non-fighting versions and ships destined for training purposes, were the 200 hp B.H.P., the R.A.F. 3a, Renault, and Hispano-Suiza.

## Performance

Space at this time does not permit giving a complete performance roundup of all versions of the De H.4. In its original production form, however, and powered by a 240 hp engine, sea level top speed is officially listed as 120 mph. This one factor alone meant a great deal in the early days of the First World War and accounts for the fact that the De H.4 was often sent out on missions minus escort fighter protection. A climb to 6,500 ft. consumed just 8 min., with 14.10 min. required to get to 10,000 ft. The struggle came at the 15,000 ft. level which was reached in 29.15 min. This performance is not particularly impressive in view of what we are accustomed to today, but remember the date was early in 1916, and at that time there were few if any experimental single seaters which could match, let alone surpass it! Landing speed at sea level was just 52 mph.

Performance picked up considerably with installation of the 375 hp Rolls-Royce Eagle engine. With this power plant the De H.4 was capable of 136 mph at sea level and its rates of climb were: 5.15 min. to 6,500 ft.; 9 min. to 10,000 ft., and 16.30 min. to 15,000 ft.

In spite of this apparent whirlwind performance, the De H.4 suffered from a number of characteristics which made it less desirable than other ships for certain duties once the meaning of air warfare became clearer. That is why certain inherent good De H.4 qualities were retained in later De Haviland designs produced under the type designations De H.9 and De H.9a.

Next month Part II of this article will go into further performance details and a structural description of the famous and long lived De H.4 biplane.

## Flash News

(Continued from page 2)

"propjet", a gas turbine-propeller installation that received its laboratory tests last spring and was installed in an experimental Army airplane last June. Most engineers believe this will be the widest immediate application of the gas turbine to commercial aviation.

THE MOST EXPENSIVE airplanes ever built in quantity were the Budd RB-1 Conestoga transports, 17 of which were delivered to the Navy at a cost of \$4,706,000 each. This amazing figure, recently analyzed, includes costs of facilities, etc.

ON OCTOBER 12 eighteen years ago Orville Wright presided at the dedication of a new and more elaborate Army Air Corps experimental station, and Wilbur Wright Field (named in honor of his

(Turn to page 88)

# Here is your Post War Engine!

(and at pre-war prices)

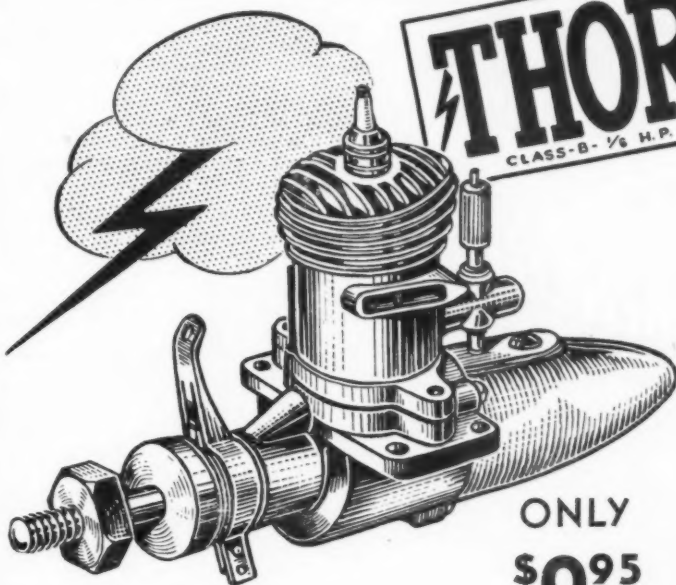
## FACTORY TESTED READY-TO-RUN

THE IDEAL ENGINE FOR  
ALL MODELS

### Special Features:

- Ideal for free-flight, U-Control planes, boats and midget cars
- Complete instruction book fully illustrated
- Full 30 day guaranty against defective parts
- Steady and consistent running
- High compression ratio for instant starting
- Every part precision engineered to perfection
- Lowest weight of all "B" engines without sacrifice of power
- Streamlined for cooler and longer operation
- New intake design for non-flooding and positive adjustment
- Piston cylinder and bearing surfaces micro-precision fitted to .0001
- Crankshaft of polished-ground steel, scientifically balanced
- Special oil grooves for longer life
- 1" bearing surface with forced double lubrication for longer wear
- Uniflow piston
- Integral all-metal tank
- Castings made of new "THOR" alloy. With more heat dissipation and wearing quality than any other engine
- Perma-designed foolproof timer—never needs adjustment—can't slip in operation
- Replacement parts available

## FOR HIGH POWER PERFORMANCE



ONLY  
**\$9.95**

INCLUDING  
Coil & Condenser

## Ready for Delivery Now!

## THE ENGINE FOR POWER!

### Specifications

H.P.: ..... 1/8  
Bore: ..... 13/16  
Stroke: ..... 9/16  
Displacement: ..... .29  
R.P.M.: ..... 300-11000  
Weight: ..... 4 1/2 oz.  
Class B, NAA rules

Here is **your** engine!! Starts with a "twist of the wrist" and hums along until you stop it. And what power! Just the model for all Class "B" planes, large or small. Priced at only \$9.95 complete with coil, condenser and fully illustrated instructions. Only our large production can give you so much value for so little.

Order from Your Dealer or From

## AMERICA'S HOBBY CENTER

### THOR ENGINES DIVISION

Dept. M16T,

156 West 22nd Street,

New York 11, New York

Send only \$1.00 and we will ship Express Collect, C.O.D. same day or send remittance in full plus 25c and we will ship parcel post insured.

**LARGEST TUBE**  
**MODEL AIRPLANE CEMENT**  
**for 10¢**

**GIANT TUBE**  
**1.6 OZ.**

**Hold-All**  
 TRADE MARK  
 ★ STRONGER  
 ★ HEAVIER BODY  
 ★ FASTER DRYING

**ROSS CHEMICAL PROD.**  
**DETROIT 17, MICH.**

**WYLAM** Book 1 "Wylam's remarkable detailed plans have spoiled me; I'm not content to build from ordinary plans now," writes F.M.H.  
 "A scale modeler's dream!"—J.J.L.  
 "Much better than advertised."—Sgt. R.E.R.  
 (See ad on page 77)

## HI-THRUST PROPS

For Higher Speeds—  
 Longer Flight—  
 Better  
 Performance

Perfect air-foil section. Sharp, clean edges. Statically and dynamically balanced. Selected hardwood, beautifully finished in natural color. Heavy enough for smooth motor operation, yet safe in a crash! Choice of 3 pitches.

ASK FOR "HI-THRUST"  
 AT YOUR DEALER

**RL Webber**  
 COMPANY  
 ORDER FROM 5729-31 LAKE ST CHICAGO 44

PRICE LIST		
Diameter	For 8" Pitch	For 10" Pitch
8" or 9"	35c	45c
10"	40c	45c
11"	40c	50c
12" or 13"	45c	60c
14"	50c	65c

brother) received the personnel, equipment and dreams of the pioneer group from nearby McCook Field, both near Dayton, Ohio, pre-natal birthplace of the airplane. Young Lt. James H. Doolittle had just accomplished the first outside loop in an Army plane and Lts. Maitland and Hegenberger had flown 2407 miles from San Francisco to our farflung outpost at Honolulu, Hawaii. During the ceremonies that day, Lt. I. A. Woodring won the John L. Mitchell Trophy Race with a speed of 158.968 mph. The 960 officers of the AAC were blazing a trail into a scientific world of dizzy speeds, breathless distances and engineering marvels. October 12, 1945, Orville Wright presided again at a dedication and led a bewildered, dazed throng through a myriad Buck Rogers dream. Eighteen years, the brief lifespan of a mere youth, had so metamorphosed the world of aviation science that the human mind was strained into incredulity. Instead of 158 mph, the Lockheed P-80 Shooting Star whispered across the field at 550 mph. Instead of 2407 miles, the Boeing B-29 Superfortress thundered over with its 3500 miles range. But that was only the start:

The Azon bomb, a conventional bomb with radio-controlled fins and rudders that can be guided as it falls, saw action in Italy and in Burma as a special bridge-buster.

The GB-4 television glider bomb delivers a ton of explosives to any given point directed by television from a control plane.

The ROC, similar to the GB-4 but designed for high angles, with its strange circumferential ring.

The Lycoming XR-7755, an astounding cornucopia of power with 9 banks of 4 cylinders each, delivering more than 5000 hp and weighing 5500 lbs.

The Wright R-2160 with a record-breaking 42 cylinders producing better than 2500 hp.

The Chrysler V-2220 weighing only 2430 lbs. and producing 2500 hp, better than one hp for each pound of weight.

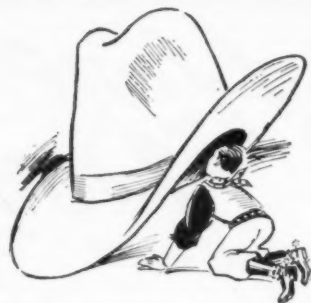
General Electric jet propulsion engines delivering nearly twice as much power in proportion to their weight as even these amazing reciprocating engines!

And even this phantasmagoria of 20th century weapons of war was but an insidious enticement for what is to come. General Arnold has hinted at guided missiles which home on light, metal or heat; winged atomic bombs that are guided to their targets by the targets themselves. Experiments have demonstrated models of guided missile sensitivity that causes it to follow the heat of a human body in a darkened room! Surely mankind approaches Armageddon!

RED-HAIRED Leroy Randle Grumman quietly told members of a Congressional committee that his F8F Bearcat fighter does 500 mph at sea level and blithely voiced the opinion that jet propulsion offers the only hope for further advances. His Bearcat continues in quantity production, member of a tiny, elite family of superplanes that survived V-J Day cancellations.

LARRY BELL'S passionate belief in the helicopter can only be tempered by the release of news of his XP-83 fighter with two General Electric I-40 jet units (of which the world-beating Shooting Star has one)!

MINNEAPOLIS-HONEYWELL Regulator Co. has demonstrated its electronic autopilot which literally provides fully automatic flight. Weighing but 60 lbs., the  
 (Turn to page 90)



## WESTERNER

Still under our hat  
 —but not for long!

ASK YOUR DEALER!

PRESIDENT Truman has said that the clothing collected throughout the nation last spring rendered a service to world peace but that a further collection of clothing is imperative. Millions are still in rags. Give all the clothing, shoes and bedding you can spare to the Victory Clothing Collection!

## MOTORS KITS AND SUPPLIES

### Gas Model Specialties

Ample stock of all leading makes for Christmas delivery. Many items not obtainable elsewhere.

3c stamp for complete list

### ART KRONFELT

4 Leslie Road

Belmont, Mass.

## PRESENTING B-Line Model Shop THE LARGEST LITTLE SHOP IN THE WEST

### COMPLETE LINE OF PLANE KITS SUPPLIES AND BALSA

We Feature All Nationally Advertised  
 Planes and Gliders

We Send Them Postpaid on Mail Orders  
 by Return Mail

C.O.D. ORDERS OVER \$1 ACCEPTED

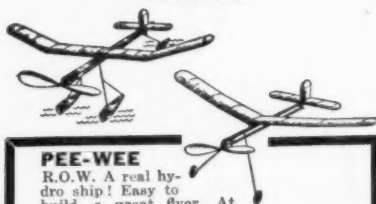
SEND FOR OUR FREE PRICE FOLDER

5325 S. Normandie Ave.  
 LOS ANGELES 37, CALIF.





# 3 NEW ALL BALSA THROW GLIDER KITS! SUPREME Kits



## PEE-WEE

R.O.W. A real hydro ship! Easy to build, a great flyer. At dealers, 25c.

## WHIPPERSNAPPER

R.O.G. Another fine kit for a barrel of fun. Quickly assembled. At dealers, 25c.

## YARDBIRD.

R.O.G.

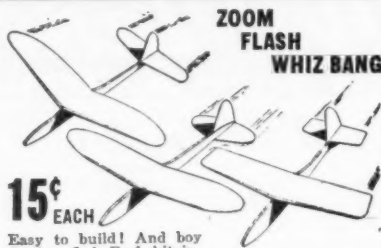
The biggest 15c worth of fun in years! Build in a jiffy and watch it climb.

## 15c SOLID MODELS

Lockheed Lodestar C-65 Bell Airacomet P-59  
Lockheed Lightning P-38 Bell Airacobra P-39  
Martin Marauder B-26 Boeing Flying Fortress B-17  
Consolidated Liberator B-24 Superfortress B-29  
Taylorcraft Vought Corsair  
Northrop Black Widow P-61 Cessna Bobcat  
FREE DESCRIPTIVE LITERATURE. Send 3c stamp to cover cost of mailing.

# SUPREME HOBBY PRODUCTS

DIVISION OF THE STEVE PATTI CO.  
MILWAUKEE 4, WISCONSIN



Easy to build! And boy do they fly! Each kit includes full size plans, sandpaper, and clay. Designed for real fun and complete enjoyment. 15c each at dealers.

In order shown:

**BREEZY  
TRAVELER  
FLYING STAR  
THERMAL  
BAGGER  
ELECTRON**

Get all FIVE of these Supreme Kits. More minutes aloft! More enjoyment. Perfect landings and takeoffs. Designed to fly and fly and fly! All kits easy to build. 26" to 28" wing span. At dealers, each 35c.

## NEW! WEASEL 15c

If dealer cannot supply order direct, add 15c for postage and packing on first kit, 5c for each additional kit.



unit guides a plane along a radio beam without attention from the pilot. Together with other MHR equipment, a complete blind landing is possible. Dreams of the "push button" airplane are now fact for the plane simply has to be "tuned in" to the destination and nothing else done but step out of the door onto the airport!

CLOSE EXAMINATION of the combat tested German Heinkel He 162 Volksjaeger (People's Fighter), which seriously threatened our bomber formations during the last days of the Battle of Europe, reveals a tiny, streamlined fuselage with single jet unit located "piggy-back" fashion atop fuselage. The He 162 climbed to 19,700 ft. in six minutes and then leveled off to cruise at 522 mph! Two cannons were mounted alongside the pilot and the wingtips were turned down. Landing gear retracted aft and upward into the fuselage in an almost identical manner to the Douglas XB-42, both developed 6000 miles apart in the greatest secrecy!

IT CAN NOW BE revealed that on December 15, 1943 Bell chief test pilot Jack Woolams climbed to 47,600 ft. in a Bell P-59 Airacomet at Muroc Army Air Base, Calif. This beat the existing American record (set June 4, 1930) by more than 4400 ft. but was far short of the 56,046 ft. world's record held by the Italians.

PAN AMERICAN has ordered the sensational Republic Rainbow four engine stratosphere transport in quantity and the first group of six has been promised for delivery in 22 months. Selling for \$1,250,000 each the giants have a guaranteed cruising speed of 400 mph and will be capable of 450 mph. The 40 passenger cabin is pressurized and the giant will weigh 113,250 lbs. fully loaded.

ANOTHER FOR THE secret history of the war: the Nazi's Bachem BP-20 Natter (or Viper), a one-way rocket plane with pilot that is launched from a conventional rocket platform to the 35,000 ft. level where it maneuvers into position to discharge its 24 rocket-shells. Following this sting, it gently comes apart in mid-air with the delicate rocket engine descending in one parachute, the pilot in another!

LATEST LOCKHEED Lightning, too late for combat, is the strange P-38M, a two-seat version with the cockpit behind the pilot housing the radar scope and operator. It was designed to accompany the Northrop P-61 Black Widow on night fighter missions.

BRITISH REPORT: The DeHavilland Hornet, a pared-downed Mosquito with room for a pilot and two giant Rolls Royce Merlins and a speed of more than 470 mph. Armed with four 20 mm cannons, the tiny composite fighter climbs 4500 ft. per min. and operates at 35,000 ft. The Blackburn Firebrand, a single seat torpedo plane powered by a Bristol Centaurus 2500 hp engine. Capable of 350 mph it is armed with four 20 mm cannons. The Supermarine Spitfire XXII, standard model with cut-away aft fuselage and bubble canopy, capable of 454 mph at 26,000 ft. The Supermarine Spitfire, long rumored secret fighter, revealed as completely redesigned Spitfire with straight-edge wings, Rolls Royce Griffon engine and five blade propeller. The Sea-fang is Naval folding-wing version. Fairey Spearfish is revised Barracuda with internal torpedo stowage, five blade propeller, maximum speed of 300 mph. Bristol Buckmaster, 352 mph "trainer" with two 2500 hp Bristol Centaurus radial engines. DeHavilland Dove, all-metal transport version of famed Mosquito with highest speed of any transport craft ever built.

## The Last Word in Scale Jobs



Actual Photo of C-Z Model of the Famous Grumman Avenger

## C-Z's NEW NON CRITICAL MATERIAL

This new, non-critical material gives you more realism, more strength and more fun. It gives complete detail and due to C-Z's expert designing, these jobs are simpler than ever to construct. Every part accurately numbered and outlined for easy assembly. All hollow construction with ribbed wings and former type of fuselage. Full size plans make it easy to build these realistic models.

2 Navy Planes	Grumman Avenger	85c
	Curtis Hell Diver	75c
2 Army Planes	Curtis P-40-F	50c
	Republic Thunderbolt	50c

STILL AVAILABLE! Many dealers still have on hand the original C-Z metal covered scale model kits. If you hurry you can still build one of these famous kits.

**C-Z MODEL AIRPLANE CO.**  
Dept. M WORTH, ILLINOIS



## RECORD BREAKING

## The "Hornet"...

POWER PLUS on "Land, Sea and in the Air" You'll find you can't go wrong on the Nation's winning motor, the "Hornet." Built for power output and speed with plenty of endurance qualities. Trost Model Hobbies is the Distributor for the "Hornet" in the Central States. Also in the Trost line is a complete line of all model supplies. Dealers in Central States please write, wire or phone for complete details, especially about our Post-War Railroad lines. They're beautiful! Dealer orders are now being accepted.

CENTRAL STATES DISTRIBUTORS

# TROST

Model Airplane and Hobbies

3111 W. 63rd St.

CHICAGO, ILL.

JOHN L. SULLIVAN, Asst. Sec'y. of the Navy, has asked that Section 2 of the Vinson-Trammell Act, under which the Navy was required to build 10% of its aircraft and industry purchases at its own factory, be repealed. Purpose of this section was to provide a yardstick which the Navy could use in checking costs of aircraft manufacture by private contractors. The highly competitive nature of the present industry, which will provide extremely close figuring and cost economy, makes this measure unnecessary. While such a move would mean the end of aircraft production at the Naval Aircraft Factory, the latter has been absorbed into Naval Air Materiel Center in such a fashion as to be unrecognizable and its work of repair, overhaul and modification would continue unabated.

THE NAVY HAS received 58 *Flying Fortress* bombers to be converted into land based patrol-bomber and air-sea rescue types. A total of 51 more are to be obtained. The *Forts* are surplus types from Army Air Forces and their designation has not yet been revealed.

SPECULATION CONTINUES concerning entry of North American Aviation into the lightplane field, first time in its 15 year history. Design studies have been made, it is known, and rumor has it as a four place cabin model powered by the new General Motors airplane engine.

ON THE SUBJECT OF RUMORS, whisperings of a Lockheed-Curtiss-Wright merger are persisting and growing louder, although industry observers can find little logic in the idea. Lockheed's victory in the big transport race assures its future. Curtiss-Wright's future is dubious in the airplane field, although some *Commando* transports are on order. Engines and propellers will continue as the bulk of the firm's business.

THE NAVY IS planning conversion of 240 Grumman F6F *Hellcat* fighters into radio-controlled target planes. The work will cost about \$5000 per plane. Target planes loom a large item in the Navy's plans with 109 already on hand from AAF, 89 new ones to be built and 2700 special guided missile types.

BEACH AIRCRAFT is now engaged in an extensive transport rental service with (believe-it-or-not!) eleven Cessna T-50 transport planes. Company spokesmen state the use of Cessna planes is simply because they are the only ones available. Nineteen more are to be added to the service which provides the plane, pilot, insurance, maintenance, repair and hangar rental for \$100 a day.

A large display of surplus aircraft in the New York area is being planned by the Army-Navy Liquidation Commission. The permanent field would provide examination of all types by prospective purchasers in Latin American countries.

RECENTLY A Lockheed *Constellation* completed a record-breaking Miami-Burbank flight in 7 hrs., 53 min., averaging 299 mph for the flight. At the controls: Maj. James G. Haizlip, well known racing pilot. The flight was made at 14,000 ft. in the pressurized cabin. Maj. Joseph McKeown, former Northwest Airlines pilot, shared the controls.

AAF HAS acquired several Ryan FR-1 *Fireball* fighters for test purposes. The planes are being delivered to Eglin Field for routine flight tests. No AAF designations revealed, although there may be none. AAF tested numerous types without official designation, has designated many others that it never tested!

## REPUBLIC THUNDERBOLT



40 1/2" wingspan, operating wing flaps, throttle control, and many new features. **\$5.95 P.P.**

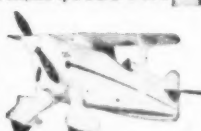
## DREAMER

NEW!

19" span. Completely sanded and cased, twin booms, and engine cabin.



Postpaid **\$7.50 P.P.**



## KNIGHT TWISTER

24" span  
7.50 P.P.

Gas Model Kits	U-Control Kits
Buccaneer 48" \$3.50	Falcon \$5.95
Varsity 50" 3.50	Vee-Gee 10.00
Muskeeter 54" 3.50	Super V Shark 4.95
Amer. Ace 54" 3.95	Tiger Shark 4.95
Buccaneer 56" 3.95	Baby Shark 2.95
Buccaneer 72" 6.95	Tarpon 10.75
Mercury 72" 5.50	Buzz 8.95
Buccaneer 90" 8.50	G-13 Biplane 7.95
Vagabond 74" 5.50	Strato-Cat 5.95

All Motors and Kits Sent Postpaid  
Our New Big Picture Catalog Lists Motors, Balsa, Supplies, Kits, Etc. Price 10c

## THE "NEW" ATWOOD "CHAMPION"

"Terrific Power"  
1946 Model "H"

Class C-60

Displ. .603

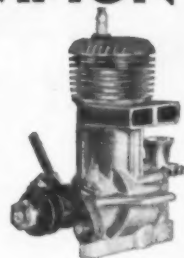
in Stock for

Immediate Del.

No Waiting

**\$23.50**

Complete with  
Coil and Condenser



ROCKET '46'	\$22.50
VIVELL '35'	\$20.00
HURRICANE 'B'	\$24.95
SUPER 'SCRAPPER'	\$18.50

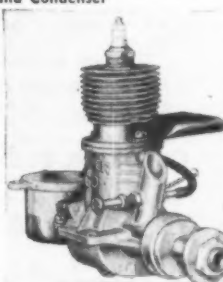
All Motors Come Complete With Coil and Condenser

## O. K. SUPER '60' POWERFUL CLASS 'C'

Ideal For  
Control Line  
Free Flight  
Roco Cars.

**\$24.00**

Complete with  
Coil and Condenser



TRIANGLE MODEL SUPPLY CO.  
32-22 Steinway St., Long Island City 3, N.Y.  
Open 9 a.m.—9 p.m. Phone RA-8-0884

**MAY CHRISTMAS BRING  
SOME WISHED FOR THING**

That you had hoped it might,  
To beat your friend's best model  
Any day or night.

Merry Christmas  
with a  
Higgins-EB-1

"Precision Detail Flying Scale"

## HELICOPTERS

HIGGINS-EB-1 or SIKORSKY-XR-5  
(shown)



with **EVERYTHING** needed  
to build! **AMAZE** your friends!

**\$3.50**  
each

at  
your dealer  
or direct

FLYING ABILITY—Can FLY forward, backwards, sideways or Hover; Climbs vertically or at an angle—INDOOR OR OUTDOOR—Proven Drive Mechanism.

KIT CONTENTS—Over 100 parts including Cement, Clear and Color Dopes, Rubber, Tissue, Wheels, Wood and Metal parts, Ready Cut Rotors, Printed Wood, Full Size Drawing, Instruction to Build and Fly, Picture History of Helicopters.

THE HOBBY HOUSE—3991 WHITE PLAINS RD., N. Y. 66, N. Y.



## 3 NEW ALL BALSA THROW GLIDER KITS! **SUPREME** Kits



### PEE-WEE

R.O.W. A real hydro ship! Easy to build, a great flyer. At dealers, 25c.

### WHIPPERSNAPPER

R.O.G. Another fine kit for a barrel of fun. Quickly assembled. At dealers, 25c.

### YARDBIRD. R.O.G.

The biggest 15c worth of fun in years! Build in a jiffy and watch it climb.

### 15c SOLID MODELS

Lockheed Lodelstar C-65 Bell Airacomet P-59  
Lockheed Lightning P-38 Bell Airacobra P-39  
Martin Marauder B-26 Boeing Flying Fortress B-17  
Consolidated Liberator B-24 Superfortress B-29  
Taylorcraft Vought Corsair  
Northrop Black Widow P-61 Vessna Bobcat  
FREE DESCRIPTIVE LITERATURE. Send 3c stamp to cover cost of mailing.

## SUPREME HOBBY PRODUCTS

DIVISION OF THE STEVE PATTI CO.  
MILWAUKEE 4, WISCONSIN

## ZOOM FLASH WHIZ BANG



15c EACH

Easy to build! And boy do they fly! Each kit includes full size plans, sandpaper, and clay. Designed for real fun and complete enjoyment. 15c each at dealers.

In order shown:

### BREEZY

### TRAVELER

### FLYING STAR

### THERMAL

### BAGGER

### ELECTRON

Get all FIVE of these Supreme Kits. More minutes aloft! More enjoyment. Perfect landings and takeoffs. Designed to fly and fly and fly! All kits easy to build. 26" to 28" wing span. At dealers, each 35c.

### NEW! WEASEL 15c

If dealer cannot supply order direct, add 15c for postage and packing on first kit, 5c for each additional kit.

### FLYIN' FOOLS!

### ALL BALSA



unit guides a plane along a radio beam without attention from the pilot. Together with other MHR equipment, a complete blind landing is possible. Dreams of the "push button" airplane are now fact for the plane simply has to be "tuned in" to the destination and nothing else done but step out of the door onto the airport!

CLOSE EXAMINATION of the combat tested German Heinkel He 162 Volkaeager (People's Fighter), which seriously threatened our bomber formations during the last days of the Battle of Europe, reveals a tiny, streamlined fuselage with single jet unit located "piggy-back" fashion atop fuselage. The He 162 climbed to 19,700 ft. in six minutes and then leveled off to cruise at 522 mph! Two cannons were mounted alongside the pilot and the wingtips were turned down. Landing gear retracted aft and upward into the fuselage in an almost identical manner to the Douglas XB-42, both developed 6000 miles apart in the greatest secrecy!

IT CAN NOW BE revealed that on December 15, 1943 Bell chief test pilot Jack Woolams climbed to 47,600 ft. in a Bell P-59 Airacomet at Muroc Army Air Base, Calif. This beat the existing American record (set June 4, 1930) by more than 4400 ft. but was far short of the 56,046 ft. world's record held by the Italians.

PAN AMERICAN has ordered the sensational Republic Rainbow four engine stratosphere transport in quantity and the first group of six has been promised for delivery in 22 months. Selling for \$1,250,000 each the giants have a guaranteed cruising speed of 400 mph and will be capable of 450 mph. The 40 passenger cabin is pressurized and the giant will weigh 113,250 lbs. fully loaded.

ANOTHER FOR THE secret history of the war: the Nazi's Bachem BP-20 Natter (or Viper), a one-way rocket plane with pilot that is launched from a conventional rocket platform to the 35,000 ft. level where it maneuvers into position to discharge its 24 rocket-shells. Following this sting, it gently comes apart in mid-air with the delicate rocket engine descending in one parachute, the pilot in another!

LATEST LOCKHEED Lightning, too late for combat, is the strange P-38M, a two-seat version with the cockpit behind the pilot housing the radar scope and operator. It was designed to accompany the Northrop P-61 Black Widow on night fighter missions.

BRITISH REPORT: The DeHavilland Hornet, a pared-downed Mosquito with room for a pilot and two giant Rolls Royce Merlins and a speed of more than 470 mph. Armed with four 20 mm cannons, the tiny composite fighter climbs 4500 ft. per min. and operates at 35,000 ft. The Blackburn Firebrand, a single seat torpedo plane powered by a Bristol Centaurus 2500 hp engine. Capable of 350 mph it is armed with four 20 mm cannons. The Supermarine Spitfire XXII, standard model with cut-away aft fuselage and bubble canopy, capable of 454 mph at 26,000 ft. The Supermarine Spitfire, long rumored secret fighter, revealed as completely redesigned Spitfire with straight-edge wings, Rolls Royce Griffon engine and five blade propeller. The Seafang is Naval folding-wing version. Fairey Spearfish is revised Barracuda with internal torpedo stowage, five blade propeller, maximum speed of 300 mph. Bristol Buckmaster, 352 mph "trainer" with two 2500 hp Bristol Centaurus radial engines. DeHavilland Dove, all-metal transport version of famed Mosquito with highest speed of any transport craft ever built.

## The Last Word in Scale Jobs



Actual Photo of C-Z Model of the Famous Grumman Avenger

## C-Z's NEW NON CRITICAL MATERIAL

This new, non-critical material gives you more realism, more strength and more fun. It gives complete detail and due to C-Z's expert designing, these jobs are simpler than ever to construct. Every part accurately numbered and outlined for easy assembly. All hollow construction with ribbed wings and former type of fuselage. Full size plans make it easy to build these realistic models.

2 Navy Planes	Grumman Avenger.....	85c
2 Army Planes	Curtiss Hell Diver.....	75c
	Curtiss P-40-F.....	30c
	Republic Thunderbolt.....	30c

STILL AVAILABLE: Many dealers still have on hand the original C-Z metal covered scale model kits. If you hurry you can still build one of these famous kits.

C-Z MODEL AIRPLANE CO.  
Dept. M WORTH, ILLINOIS



## RECORD BREAKING The "Hornet"...

POWER PLUS on "Land, Sea and in the Air" You'll find you can't go wrong on the Nation's winning motor, the "Hornet." Built for power output and speed with plenty of endurance qualities. Trost Model Hobbies is the Distributor for the "Hornet" in the Central States. Also in the Trost line is a complete line of all model supplies. Dealers in Central States please write, wire or phone for complete details, especially about our Post-War Railroad lines. They're beautiful! Dealer orders are now being accepted.

CENTRAL STATES DISTRIBUTORS

## TROST

Model Airplane and Hobbies  
3111 W. 63rd St. CHICAGO, ILL.

JOHN L. SULLIVAN, Asst. Sec'y. of the Navy, has asked that Section 2 of the Vinson-Trammell Act, under which the Navy was required to build 10% of its aircraft and industry purchases at its own factory, be repealed. Purpose of this section was to provide a yardstick which the Navy could use in checking costs of aircraft manufacture by private contractors. The highly competitive nature of the present industry, which will provide extremely close figuring and cost economy, makes this measure unnecessary. While such a move would mean the end of aircraft production at the Naval Aircraft Factory, the latter has been absorbed into Naval Air Materiel Center in such a fashion as to be unrecognizable and its work of repair, overhaul and modification would continue unabated.

THE NAVY HAS received 58 Flying Fortress bombers to be converted into land based patrol-bomber and air-sea rescue types. A total of 51 more are to be obtained. The Forts are surplus types from Army Air Forces and their designation has not yet been revealed.

SPECULATION CONTINUES concerning entry of North American Aviation into the lightplane field, first time in its 15 year history. Design studies have been made, it is known, and rumor has it as a four place cabin model powered by the new General Motors aircraft engine.

ON THE SUBJECT OF RUMORS, whisperings of a Lockheed-Curtiss-Wright merger are persisting and growing louder, although industry observers can find little logic in the idea. Lockheed's victory in the big transport race assures its future. Curtiss-Wright's future is dubious in the airplane field, although some Commando transports are on order. Engines and propellers will continue as the bulk of the firm's business.

THE NAVY IS planning conversion of 240 Grumman F6F Hellcat fighters into radio-controlled target planes. The work will cost about \$5000 per plane. Target planes loom a large item in the Navy's plans with 109 already on hand from AAF, 89 new ones to be built and 2700 special guided missile types.

BEACH AIRCRAFT is now engaged in an extensive transport rental service with (believe-it-or-not!) eleven Cessna T-50 transport planes. Company spokesmen state the use of Cessna planes is simply because they are the only ones available. Nineteen more are to be added to the service which provides the plane, pilot, insurance, maintenance, repair and hangar rental for \$100 a day.

A large display of surplus aircraft in the New York area is being planned by the Army-Navy Liquidation Commission. The permanent field would provide examination of all types by prospective purchasers in Latin American countries.

RECENTLY A Lockheed Constellation completed a record-breaking Miami-Burbank flight in 7 hrs., 53 min., averaging 299 mph for the flight. At the controls: Maj. James G. Haizlip, well known racing pilot. The flight was made at 14,000 ft. in the pressurized cabin. Maj. Joseph McKeown, former Northwest Airlines pilot, shared the controls.

AAF HAS acquired several Ryan FR-1 Fireball fighters for test purposes. The planes are being delivered to Eglin Field for routine flight tests. No AAF designations revealed, although there may be none. AAF tested numerous types without official designation, has designated many others that it never tested!

## REPUBLIC THUNDERBOLT



40 1/2" wingspan, operating wing flaps, throttle control, and many new features.

**\$595 P.P.**

### DREAMER

NEW!

19" span. Completely sanded and cased, twin booms, and engine cabin.



Postpaid **\$7.50 P.P.**

## KNIGHT TWISTER

24" span  
7.50 P.P.



Gas Model Kits	U-Control Kits
Buccaneer 48" \$3.50	Falcon \$5.95
Varsity 50" 3.50	Vee-Gee 10.00
Musketeer 54" 3.50	Super V Shark 4.95
Amer. Ace 54" 3.95	Tiger Shark 4.95
Buccaneer 56" 3.95	Baby Shark 2.95
Buccaneer 72" 6.95	Tarpon 10.75
Mercury 72" 5.50	Buzz 8.95
Buccaneer 90" 8.50	G-13 Biplane 7.95
Vagabond 74" 5.50	Strato-Cat 5.95

All Motors and Kits Sent Postpaid  
Our New Big Picture Catalog Lists Motors, Balsa, Supplies, Kits, Etc. Price 10c

## THE "NEW" ATWOOD "CHAMPION"

"Terrific Power"  
1946 Model "H"

Class C-60

Displ. 603

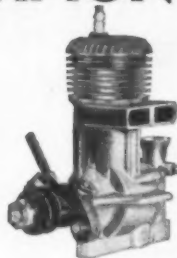
In Stock for

Immediate Del.

No Waiting

**\$23.50**

Complete with  
Coil and Condenser



ROCKET '46'	\$22.50
VIVELL '35'	\$20.00
HURRICANE 'B'	\$24.95
SUPER 'SCRAPPER'	\$18.50

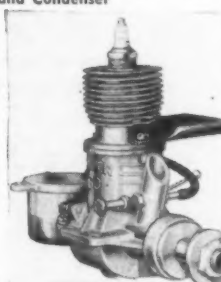
All Motors Come Complete With Coil and Condenser

O. K.  
SUPER '60'  
POWERFUL  
CLASS 'C'

Ideal For  
Control Line  
Free Flight  
Race Cars.

**\$24.00**

Complete with  
Coil and Condenser



TRIANGLE MODEL SUPPLY CO.  
32-22 Steinway St., Long Island City 3, N.Y.  
Open 9 a.m.—9 p.m. Phone RA-8-0884

**MAY CHRISTMAS BRING  
SOME WISHED FOR THING**

That you had hoped it might,  
To beat your friend's best model  
Any day or night.

"Precision Detail Flying Scale"  
**HELICOPTERS**  
HIGGINS-EB-1 or SIKORSKY-XR-5  
(shown)



with EVERYTHING needed  
to build! AMAZE your friends!

**\$350**  
each

at  
your dealer  
or direct

FLYING ABILITY—Can FLY forward, backwards, sideways or Hover; Climbs vertically or at an angle—INDOOR OR OUTDOOR—Proven Drive Mechanism.

KIT CONTENTS—Over 100 parts including Cement, Clear and Color Dopes, Rubber, Tissue, Wheels, Wood and Metal parts, Ready Cut Rotors, Printed Wood, Full Size Drawing, Instruction to Build and Fly, Picture History of Helicopters.

**THE HOBBY HOUSE—3991 WHITE PLAINS RD., N. Y. 66, N. Y.**

TIMELY GIFT SUGGESTION  
COLORFUL SET OF SCALE MODEL

# DECALS for XMAS



**YOUR BOY or FRIEND MODEL MAKER WILL ENJOY THIS SET!**  
A LARGE SELECTION of USEFUL SCALE DECALS—HUNDREDS OF THEM, PACKED IN A SPECIALLY DESIGNED CHRISTMAS PACKAGE.

ASK YOUR DEALER FOR  
**SET No. 500**  
SET CONTAINS 18 SHEETS OF  
**COLORFUL DECALS**  
EACH DIFFERENT, WITH A  
RETAIL VALUE OF \$1.75  
YOU PAY ONLY **\$1.15**  
—POST PAID—

SEE YOUR DEALER FIRST!  
IF HE CANNOT SUPPLY YOU  
MAIL \$1.15 (CANADA \$1.35)

**POSTER STAMP PRESS**  
549 W. RANDOLPH STREET  
CHICAGO 6, ILL. U.S.A.

## RYAN FR-1

—is the feature plane for February **MODEL AIRPLANE NEWS**, in which will also appear a flying scale rubber model of this ship. This model is of simplified design yet when properly built is extremely realistic and a good performer.

## In Canada It's Harold Speaker Hobbies

1852 Danforth Ave., Toronto, Ont.  
Phone HO 5707  
FOR YOUR

## HOBBY KITS & SUPPLIES

Largest Stock and Variety  
of Any Hobby Store  
in Canada

## MOTORS

### NEW HURRICANE

Class B @ \$24.95, Complete With Coll and Condenser

### NEW MERLIN

Class B @ \$24.95, Complete With Coll and Condenser

## AMERICAN MOTORS SOON.

Cat. 10c

## S.O.S. to the Model Manufacturer

by Roy L. Clough Jr.

THE model airplane has flown a long way since the first balsa, silk and innertube creation staggered through the air. We have bigger things to shoot at, including jet propulsion, rocket, and dozens of possible helicopter combinations.

Ardent fans as we are of the bigger jobs, we naturally wish to duplicate them in miniature. Model building, now freed of the innumerable shackles fastened upon the sport during the war years, is ready—with the aid of a few live wire manufacturers—to go places.

What we want is more ready made parts.

If the number of ready made accessories sold during the past few years is an index, the average model builder would much prefer to buy such items as, say, turned wood wheels, pneumatic wheels, gas model props, engine mounts, tanks, battery holders etc., than make them himself. An item like pneumatic wheels, for example, is quite beyond the possibilities of the average workshop. More items of this type—not necessarily complicated but for various reasons not susceptible of production by individual modelers—are vitally needed.

Here, Mr. Manufacturer, are some of the things we want:

Model helicopters are proving ever more popular, but in order to build successful gas engine powered models of the Sikorsky type we shall need a good, rugged and light gear box and clutch mechanism with a simple bevel gear drive for the anti-torque rotor. Such an arrangement should not be too difficult for a well-equipped manufacturer to produce, and the whole thing should not cost more than an average engine—the whole point of the matter is that most of us are not able to construct such a gearbox for ourselves.

How about a simple coaxial drive for gas engines? It could be done with a couple of gears in a streamlined aluminum or other light metal housing. Elimination of torque in our free flight gas models could result easily in much more efficient types of new and improved design, and eventually might make present day controliner speeds possible in free flight models.

Then there's the *Atom*, which is a sweet little engine. It would seem that a redesign of the *Atom* crankcase to take two cylinders could result in class C performance on class B weight. How about it?

Let's see more multi-cylinder engines such as the five-cycle Morton radial on the market. Why doesn't somebody come out with a good two or four in line? Think of what could be done with a controliner with four class B cylinders screaming away in the nose. Extensive use of die castings should keep both cost and weight reasonable.

How about some left hand props for those of us who like to build pushers? Some engines (because of certain design features) are irreversible. Two, three and four blades of wood, metal or plastic, preferably set in an adjustable hub, should also find a wide market.

How about a simple cast aluminum blower and housing which could be fitted to any standard make of engine to convert it into a jet unit? Engine exhaust should, of course, be siphoned off behind the blower to increase by heat the

(Turn to page 94)

★ QUICK DRYING  
★ FEATHERWEIGHT  
★ WATER WHITE  
★ STAIN PROOF

# LEPAGE'S

SPECIAL  
AEROPLANE  
GLUE




You can make a flock of planes with this water-white, transparent, light-as-a-feather glue. It won't stain any woods... sets quickly!

10c

## AN AIRAGE "FLYING SCALE MODELS" PUBLICATION

Detailed plans, photos and instructions for building 16 flying scale military planes designed by Stahl, Weiss and Struhl.

(SEE PAGE 77)  
\$1.50 at your model or book shop, or direct from Air Age Inc., 551 5th Ave., New York 17

# SCREEN-O-TYPE DECALS

STOCK ITEMS—More than 50 Nos.  
Aviation — Bicycle — Alphabets  
— Numbers — Decorative. 15c — 25c and 35c per sheet.

MADE TO ORDER—Nameplate and Trademark Designs — Labels — Escutcheons — Window Signs, etc.

MANUFACTURERS, — JOBBERS — DEALERS: Write for catalog, prices and samples. Our quality and prices will please you.

MODEL BUILDERS: Send 10c for sample sheet and price list.

# WALTHERS

Mrs. & Jobbers to the Hobby Trade  
245 E. Erie St., Milwaukee 2, Wis.

## DEALERS LIMITED QUANTITIES

STOCK UP FOR THE COMING  
FLYING SEASON  
ORDERS SHIPPED SAME DAY

CEMENT OR DOPE		BALSA SHEETS	
1-Pint.....	\$ .40	Grade A-1	
1-Quart.....	.75	1/16x2x36—100.....	\$ 4.75
1-Gallon.....	2.25	1/16x3x36—100.....	9.00
5-Gallons.....	10.50	3/32x2x36—100.....	6.00
30-Gal. Drum.....	58.00	3/32x3x36—100.....	10.50
		1/4x2x36—100.....	8.00
		1/4x3x36—100.....	13.00
		3/16x2x36—50.....	4.95
		3/16x3x36—50.....	7.75
		1/4x2x36—50.....	5.80
		1/4x3x36—50.....	8.80
COLOR DOPE		IGNITION WIRE	
Red — White — Blue		Hi-Grade 25 Strands	
Green — Orange —		Lacquered oil proof	
Yellow — Black —		100 ft.....	\$1.75
Khaki — Sand Grey		500 ft.....	5.00
1-Pint.....	\$ .60	1000 ft.....	8.50
1-Quart.....	1.10		
1-Gallon.....	3.25		
5-Gallons.....	14.00		
#70 S.A.E. Oil			
Qt. 70-Gal.....	3.00		

No Orders Less than \$4.00. No C.O.D. All Orders Shipped Express Charges Collect.

**AMERICAN SALES CO.**  
1592-M1 Lincoln Pl., Brooklyn 33, N. Y.



# G. H. Q. GASOLINE ENGINE

INCLUDING  
COIL & CONDENSER

**\$9.95**

IN STOCK—IMMEDIATE SHIPMENTS

## REAL ENGINE VALUE

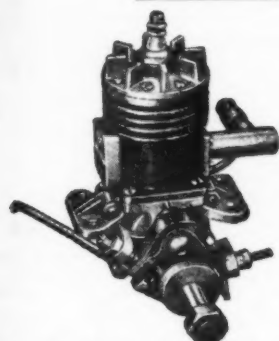
We now have the ready-to-run G.H.Q. engines ready for immediate shipment. The new 1946 model has been factory-assembled by experts and fully bench-tested.

### THE IDEAL ENGINE FOR ALL MODELS

Imagine operating your own G.H.Q. 1/5 Horse Power gasoline engine—small enough to fit in the palm of your hand—yet turning up over 7000 revolutions per minute and powerful enough to fly model airplanes of from 5 to 10 foot wingspan.

Your G.H.Q. gasoline engine will be far more than just a toy for your spare moments. It is a scientifically constructed mechanical marvel that will thrill you with thousands of hours of pleasure. You will get a real kick out of controlling with your finger tip the surge of power your engine develops.

This engine has been tested and proven over the last ten years. Over ONE HUNDRED THOUSAND of these powerful little G.H.Q. engines are now in actual daily use. Why not join the ranks of these hobbyists? Study the unusual features below that you will find in your engine.



Over 100,000 G.H.Q. Engines in Use Today Is Your Guarantee of a Good Investment!!

#### SPECIFICATIONS

4 Part 2 Stroke Cycle—  
3/4" Stroke—15/16" Bore—  
300-7,000 R.P.M.  
Bearing Surface, 1 1/4" Long—  
Crankshaft, 5/16" Diam.  
Motor Weight, 10 oz.—  
Rotation, Either Direction  
Invertible—Runs on 2 Flashlight  
Cells—  
Runs 27 Minutes on One Ounce of  
Fuel  
Height, 4 1/2"—Width, 2 1/2"—  
H.P. Approx. 1/5th  
Displacement, .517 cubic inches  
Class "C" under N.A.A. Rules

Send for FREE illustrated catalog of hundreds of plane, boat and hobby items.

**ONLY \$9.95** Complete with Coil, Condenser & Full Illustrated Instructions

### Compare these features that make the G.H.Q. Gas Engine a winner!

WE  
HAVE  
ENGINES

Order Shipped

SAME

DAY

RECEIVED

1. Easy starting.
2. Steady running—as long as gas, oil and spark are supplied.
3. Motor starts and runs on two flashlight cells.
4. Motor cannot overheat.
5. Piston and cylinder features: piston constructed of one piece, with unflow baffle and high compression head, centerless ground to within .0002". Cylinder is selected grey iron for long life, Hutto-honed to within .0001" of absolute roundness. Piston and Cylinder are hand fitted to insure perfect compression.
6. Accurate long wear aluminum die castings for cylinder head, crankcase, etc.
7. One-piece drop-forged chrome-nickel steel shaft, perfectly balanced and centerless ground. Absolutely unbreakable.
8. Main bearing (1 1/4 inches long) is reamed and lapped to perfect fit.
9. Connecting rod of high-speed bronze.
10. Carburetor is accurately designed—extremely simple to operate.
11. Timer assembly compact, fool-proof, long-wearing, replaceable and adjustable. Genuine tungsten points. Not a cheap "wipe" timer but a real aviation type "make and break" system.
12. Coil will not overheat or short circuit; convenient terminals make soldering unnecessary; oil, gas, and water-proof; not a pee-wee—but a husky, yet lightweight, spark coil that will give a maximum spark.
13. Condenser is gas, oil and water-proof.
14. Champion "V" Spark Plug and Washer.
15. Easily inverted and runs in either direction.
16. Absolutely safe—impossible to explode.
17. Speed range 300 to 7,000 R.P.M.
18. Low gas consumption—runs 27 minutes on one ounce of fuel.
19. Strongest miniature motor.
20. ALL PARTS REPLACEABLE.
21. Simple, illustrated and fully detailed operating instructions.

### READ WHAT G.H.Q. ENGINE OWNERS SAY:

R. D., Cotati, Cal.: About one year ago I purchased one of your G.H.Q. Motors. I am glad to tell you that the G.H.Q. motor is a very fine motor. I have been using it in a Super G Shark. In the past year we have been having many model airplane contests and I have won nearly every one with my Super G Shark powered by your G.H.Q. motor. My G.H.Q. motor has been giving me excellent service.

J. N., Breckenridge, Minn.: Am having good results from my motor.

E. D., Pleasant Hill, Mo.: Received my G.H.Q. motor in fine shape. Very well satisfied, and think it is a swell little motor, runs fine. A friend of mine wants one, too, so wanted me to order it for him.

C.C., South Hill, Va.: I bought a G.H.Q. engine from you last September and installed it in a six foot wingspan airplane. In engine performance, the engine you sold me passed with flying colors. I congratulate you on putting so much performance in my engine at so low a cost.

C. F., Pittsburgh, Pa.: My G.H.Q. engine has given very satisfactory service for several years now.

E. S. J., Tallahassee, Fla.: I have a G.H.Q. engine that I purchased from your company a short while ago and it operates satisfactorily.

N. L. B., New York, N. Y.: I received my G.H.Q. motor in fine shape. It runs well, and I am sending another order to you.

M. B. H., Omaha, Nebr.: I think the G.H.Q. motor is the best motor I have ever seen.

A. Z., Texarkana, Tex.: I have had about seven of your motors in the past and think quite a lot about them.

R. D., Glen Allen, Va.: I started it with only a few turns of the propeller and was very pleased with it.

J. M., Arlington, Va.: I've had one of your motors for about three years now and it's still going strong.

C. L. N., Amarillo, Tex.: Before my induction into the Army I built a few models which incorporated your G.H.Q. motor. I found it satisfactory and put a great deal of faith into it because of its dependability.

B. D. J., San Francisco, Cal.: I already own one of your G.H.Q. engines and it performs like new.

D. B. R., Jr., Litchfield, Conn.: I purchased one of your engines a few years ago and it is still in working order. I have used it in boat models with great success. I am particularly impressed by its easy-starting qualities. These are very valuable in a boat, where it is more difficult to start an engine. Usually, only one attempt is needed once the engine has been primed. As a matter of fact, my G.H.Q. motor starts easier now than when I bought it. The motor has satisfied me very much.

Above letters and hundreds of others available for inspection at our office.

HOW TO ORDER: SEND ONLY \$1.00.

We Ship Collect C.O.D. for Balance Same Day

**G. H. Q. MOTORS**

DEPT. MV16, P. O. Box 193, Station O, New York 11, N. Y.

**FREE:** Send for our new catalog, absolutely free listing over 1500 highest quality photos of U. S. Army, Navy, Commercial, World War I, II, models.

Dept. M. P. O. Box 2711, Sacramento, Calif.

## LEADING SUPPLY HOUSE

[illegible]**offers**

- |                        |     |
|------------------------|-----|
| M-1 7½" Submarine..... | 30c |
| M-2 6" P.T. Boat.....  | 40c |
| M-3 6" Navy Blimp..... | 50c |
| M-4 Midget Racer.....  | 25c |

1001 No. Pacific Ave. Glendale 2, Calif.

**KEN** \$32.50  
Postpaid

DeLong "30"—"B" \$24.50 pp.

**HURRICANE**      **ROCKET**  
**VIVELL "35"**      **O.K. "SUPER 60"**

All available Kits and accessories—Check other ads for prices. Write for complete list. **PROMPT DELIVERY.**

**JOBBER** } Write now for discounts on  
**DEALER** } new design patented tear  
drop. Model Stand.

### EAST AKRON MODEL SHOP

3 Fulton Street, Akron 5, Ohio

**BIG** Assortment  
**GUNS & BOMBS** 25c  
Special big assortment of 10 die-cast finely detailed  
Postage 3c Extra



Boat and airplane fittings—parts also largest complete line of O-HO-OO gauge Railroad parts available anywhere.

Send for your catalog and assortment today!  
Catalog only 5c to cover mailing.

## TOOLS

3" Arbor.....	\$1.00	<b>Multis Use Rule &amp; Gauge</b>	
4" Circular Saw.....	.50	No. 18	
4" Emery Wheel.....	.50	4" Rule, Square, Di-	
4" Buffing Wheel.....	.25	vider, Center Find-	
5" Buffing Wheel.....	1.00	er, Circle divider,	
Hand Vise 6 1/2" long.....	.70	Drill point gauge.....	\$1.10
Hack Saw.....	.30	Center Gauge No. 777 1/2	
10" Wheel.....	.10	Protractor No. 18.....	1.10
Always Saw 8" 7 1/2".....	.35	Inside or Outside Cal-	
		ipers; either one.....	1.10
<b>Vernier Calipers No. 621</b>			
5" Capacity.....	\$1.50		
3" Capacity.....	.25		

Add 15c for mailing or 10% of order

**SELLEY MFG. CO., Dept. 301**  
1377 GATES AVE., BROOKLYN 21, N. Y.

## DEALERS!

**New, all cut out**

## 12" BALSA GLIDER

Fly indoor or outdoor all year 'round

"JUNIOR PILOT" PRINTED ON WINGS

**\$9.00**

gross, postpaid

**Order now while stock lasts**

## BE SURE

to get our "lowest-ever" complete wholesale price list. Bigger profits on all gas motors, gas and rubber-powered kits and supplies. Write for large wholesale catalog—today!

**Montauk Model Aircraft Co.**

4320 Sixteenth Ave., Dept. M-1  
Brooklyn 4, N.Y.

# Special Christmas Offer

# 24 BIG ISSUES \$3.00

ALL FOR ONLY



## SPECIAL CHRISTMAS OFFER

Here's a bagful of cheer that'll give your friend a big bang! Yes, a full 2-year subscription to *Model Airplane News*... Think of it, 24 BIG ISSUES... all for only \$3! This gift offer is strictly a "Special"... good only until Christmas. Remember the regular newsstand price is 20c a copy. That's \$4.80 for 2 years. So, this saves you \$1.80! (1 year subscription for 12 months may also be obtained at \$2.00, a saving of 40c.)

And by the way... why not a little gift for yourself, too! Put down your own "John Henry" on the gift list if you like. You, too, can enjoy full saving... because *your* subscription will be extended 24 months beyond its present expiration.

## ENJOYMENT OF LUXE...AND TRAINING VALUE, TOO

72 Pages or More-**EVERY MONTH!**

When you give *Model Airplane News*... you really do give the finest of gifts... for Aviation is "top-dog" today in the public eye. For reading... for FUN... for building... here's the magazine that gives you much "more than an eyeful"! You see not only the latest most exciting planes... but have the world's best opportunity to get in there yourself and pitch! Not every fellow wants to build... to fly... to have his own miniature air fleet. But most *Model Airplane News* readers do.

That's why this magazine *tells them how*... makes it easy for both beginners and advanced modelers to **GET AHEAD IN AVIATION!**

*Model Airplane News* is the ONE book devoted to lots and lots of planes of all types. It's chock-full of articles that really click in getting you ahead. Gliders, scale stuff, flying specials, flying scale, tether control, gas duration, etc. *Model Airplane News'* staff of experts gathers the best of pictures, stories, plans, latest model developments by *ace modelers* not only from the U.S. but from all over the world. But remember above and beyond modelling... this great magazine also brings you some of the hottest **BIG SHIP** news... and it's right off the griddle! Sometimes it's one of the first and inside stories on a big development. These up-to-the-minute Aviation Highlights are followed up with dandy pictures and modelling angles.

## WE SEND CHRISTMAS GIFT CARD

A very attractive Gift Card with your name and greeting goes to each person you put down for a Gift Subscription.

**MODEL AIRPLANE NEWS, 551 Fifth Ave., New York 17, N. Y.**

Enclosed find \$..... Please send me *Model Airplane News* for.....

Send to.....

Address.....

City.....State.....

☐ Check here if Gift Card is to be sent.

Name of Sender.....

Offer good in the United States, Canada, U.S. possessions, Cuba, Mexico, Panama and South America.

# MODEL AIRPLANE NEWS

MODEL AIRPLANE NEWS • January, 1946



★ Like the great planes that spelt  
**VICTORY** for the A.A.F. and the Fleet,  
**BERKELEY MODELS**  
★ have these great American features:

1

**RUGGED CONSTRUCTION** . . . Like American fighting planes, Berkeley Models are built to take punishment and keep on flying. No materials are spared to weaken models and disappoint you.

2

**PROVED DESIGN CONSTANTLY IMPROVED** . . . Berkeley Models are products of over 10 years experience, just as most fighting aircraft result from years of research, with modifications from test in battle. Berkeley alone modifies models after they originally are designed. Today's "Buccaneer" Models are great advances of the original 1935 "Buccaneer," while retaining its fine features of basic design.

3

**COMPLETELY EQUIPPED** . . . U. S. battle planes excel in radio, ordnance and safety equipment . . . hence their superiority. Berkeley Model Kits excel . . . including all invaluable little "extras" that mean so much. Both in material and design you find that Berkeley is the Leader.

4

**QUALITY PRODUCTION METHODS** . . . America's production miracle of maintaining airplane quality far above the enemy's by mass production is paralleled in Berkeley Models. Starting from a small model shop, catering to the needs of a few experts, Berkeley is one of America's largest producers of power models. Maintained quality built this growth. It assures you the same quality today that made champions in the past.

5

**PERFORMANCE** . . . On every front American aircraft have outperformed the enemy, as proved by the battle records of America's pilots. Berkeley performance is proved by the contest records of hundreds of builders of Berkeley-designed models.

**9 GREAT LINES OF BERKELEY MODELS!**

FREE FOLDER . . . Send for your copy TODAY!



**THE THUNDERBOLT P-47 \$5.95 COMPLETE KIT**  
**"CONTROLINER"\*** P.P.

1 Inch—1 Foot Scale . . . 40 3/4 Inch Wingspan

Three full years in the development stage, Berkeley's P-47 "Thunderbolt Controliner" is now ready for you. Berkeley "Controliner" gas models handle like real magic. Besides smooth elevator control, you have control over the engine speed at all times. "Controliners" land like a full size fighter, with automatic operating wing flaps. Kit has balsa wood parts printed out.

\*Trade Mark Reg. U. S. Pat. Off., Mfg. under license Jim Walker U-Control Pat. No. 2292116 and other patents pending.



**AMERICAN ACE "54"**

**\$3.95 P.P.**

54" Wingspan—For engines .19 to .49 cubic inch displacement  
Designed for you by the National Champion. Kit includes formed landing gear, wheels, balsa printed sheets and cement.



**\$4.95 P.P.**

**MUSKETEER "STANDARD"**

6 foot Wingspan—For Class "C" Engines .40 to .65 Cubic Inch Displacement

Kit includes wheels. Formed wire landing gear. Semi-finished nose blocks. Silk-span covering, liberal supply of cement.



**\$6.95 P.P.**

**BUCCANEER "C" SPECIAL**

6 foot Wingspan—For Class "C" Engines .40 to .65 Cubic Inch Displacement

Kit includes wheels, formed landing gear. Semi-finished wood blocks. Cement, clear dope. Silk-span covering. Plans in detail. Wood parts printed out.



**\$8.50 P.P.**

**SUPER BUCCANEER**

7 1/2 foot Wingspan—For All Large Model Engines

Kit includes wire for landing gear. Semi-finished blocks. Cement, clear dope. Silk-span covering. Plans in detail. Wood parts, printed out.



**\$1.00 plus 10c postage**

**SINBAD THE SAILER**

50" Wingspan

This tow-line launched glider equipped with Spiral Control is capable of unbelievable accomplishments. The ease with which you can launch and with which you can build the ship will amaze even the most experienced builders.

**BERKELEY MODELS INC.**

230 STUEBEN STREET • BROOKLYN 5, N.Y.

**CONTEST WINNERS SINCE 1933 ENGINEERED BY "EFF"**

95  
P.P.

.49  
ion,  
eels,

es  
ing  
pan

es  
ear,  
lear  
tail.

emi-  
Silk-  
parts,

with  
ac-  
can  
ship  
ers.

y, 1944

# COMET'S *First Big* POST WAR THRILL!



## *... the RETURN of* *The* INTERCEPTOR

*Sensational GAS MODEL designed by CARL GOLDBERG*

**H**ERE IT IS, gas model fans—the great Interceptor—back on your dealer's shelf! The same sensational model that had already become a stand-out before the shortage of balsa prompted us to withdraw it, rather than produce it with inferior material! The Interceptor was so far ahead of its day that it is still the most advanced Class "A" and "B" gas model you can buy! It offers Carl Goldberg's

amazing De-Thermalizer—which brings your model down out of rising air currents—prevents its flying away! Foolproof automatic retractable landing gear; almost unbelievably steep climb—graceful glide! Kit contains plans and materials to complete either Class "A" or "B" model. And all this at Comet's value-packed price of only. . . . .

**\$2.95**  
Kit No. T-14

**COMET** MODEL AIRPLANE & SUPPLY CO. inc.  
9 W. 29th STREET, CHICAGO 16, ILL. 1170 BROADWAY, NEW YORK 1, NEW YORK

## NOTE

Ohlsson & Rice matched piston and cylinder, and crankcase rear section, can be installed only at the factory and original parts must be returned. \$1.50 Installation Charge



PISTON & CYLINDER  
(Sold only as unit)  
60005 . . . \$4.00

WRIST PIN  
60035 . . . 40¢

CONNECTING ROD SPACER  
60065 . . . 25¢

LOCKING SNAP RINGS FOR WRIST PIN  
60025 . . . 10¢

CONNECTING ROD  
60045 . . . \$1.25

CRANKSHAFT  
60055 . . . \$3.00

BALL BEARING THRUST BEARING WITH RACES  
1015 . . . 50¢

Champion V  
1/2"x24 thread  
60525 . . . 50¢

with SPARKPLUG WASHER

NEEDLE VALVE  
1016  
50¢

JIFFY-FILL CAP  
1017 . . . 15¢

JIFFY-FILL SPRING  
1018 . . . 10¢

NEEDLE VALVE NUT  
With washer 1046 . 5¢

NEEDLE VALVE  
LOCK 1044 . . 10¢

Needle Valve Washer  
Comes with nut

TANK TOP  
60115

NEEDLE VALVE BODY  
60125  
50¢

TANK TOP  
A60115

FUEL TANK  
60105

## TIMER ARM

Side Control  
1022  
40¢



TIMER ARM SCREWS  
included in the complete set of screws  
60145 set . . . 20¢

MOVING CONTACT POINT  
1025 . . . 35¢



TIMER SPRING  
1026 . . . 10¢

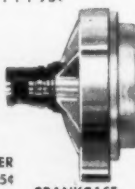
TIMER HOUSING  
1032 . . . 75¢

PROPELLER NUT 60375  
5¢



FRONT PROPELLER WASHER  
60365 . . . 25¢

PROPELLER DRIVING WASHER  
60095 . . . 35¢



CRANKCASE FRONT SECTION upright  
60075 . . . \$2.00  
for inversion  
A60075 . . . \$2.00

## FOR INVERSION

Any "60 Special" engine with a serial number preceding 12200 will necessitate addition of parts A60075 and A60115, but any "60 Special" beyond serial number 12200 will need ONLY A60115.

# Ohlsson & Rice 60 Special

With this parts "map" hanging in your workshop, you can easily locate any part of your O & R 60 Special, get its number and price, and pick it up from your dealer. These precision-made parts, product of the most experienced miniature engine craftsmen in the world, tell the story of the 60 Special and its unequalled acceptance by modelers!

MEMBER





AP 0  
156

L  
04

BA

FUE

1

K TOP

K TOP

K TOP

FUEL

50105

Suppe

of 10

1405

1405

N. S.

1405

1405

1405

1405

1405

1405

1405

1405

1405

1405